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MECHANICAL ENGINEERING

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JANUARY, 1920

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Coming Section Meetings

Atlanta Section.

January 27: In Carnegie Library reading room. Oil as a Fuel, by Charles M. Rogers, Rogers Higgins Co.

Boston Section.

January 22: At the Boston Engineers' Club.
Subject: Research. Speakers: Dean John R. Allen and Prof. A. M. Greene, Jr.

Buffalo Section.

January 6: At the Ellicott Club, 10th Floor.
Subject: Oxy-Acetylene Welding, by Major C. K. Bryce.

Cleveland Section.

January 27: In the rooms of the Cleveland Engineering Society, Roof Garden, Hotel Statler, 8 p. m. Subject to be announced later.
Luncheons are served daily to members and guests (ladies invited) in the dining room of the Cleveland Engineering Society, Roof Garden, Hotel Statler.

Eastern New York Section.

January 23: At Edison Hall, Schenectady.
Subject: Gages, by C. E. Johansson, of C. E. Johansson, Inc., New York.

Indianapolis Section.

Every Thursday: Luncheon meeting at the Scientech Club.

Minnesota Section.

January 9: At the Midway Branch, St. Paul Chamber of Commerce.
Dean Kimball to be speaker. Subject to be announced.

New Haven Branch.

January 14: At the Mason Laboratory, Yale University.
8 p. m. Subject to be announced.

New Orleans Section.

January 12: At the Louisiana Engineering Society.
Annual Meeting and Smoker.

New York Section.

January 13: At the Engineering Societies Building.
Subject: New Uses of Fuel. 8 p. m. Speaker to be announced.

Philadelphia Section.

January 27: At the Philadelphia Engineers' Club.
Subject: Modern Boiler-Room Practice, by Norman Reinicker, Supt. of Operation, Lehigh Valley Light & Power Co.

St. Louis Section.

January 2: At Hotel Statler.
New Problems in Engineering, by Dr. Ira N. Hollis.

San Francisco Section.

January 8: At the San Francisco Engineers' Club.
Subject: The Industrial Uses of Gas, by B. W. M. Henderson, H. M. Crawford, and M. Balliet, of Moore Ship Building Co. Luncheon meeting at San Francisco Engineers' Club every Thursday.

SOCIETY AFFAIRS

Secretary's Letter—Council Notes—Society Prizes—Professional Sections—Recommendations on A. S. M. E. Policy—Local Sections Conference—New Officers of the Society—Personals—Necrology—Employment Bulletin—Candidates for Membership

An Inclusive National Organization of Engineers

THE SECRETARY'S LETTER

WE have just received calls from Captain Tuccumei, of Rome, and from Mr. Ernest M. Hughman, of Calcutta. Both announced that in their respective countries there has been instituted an inclusive national organization of the engineering profession.

The first impression on the Secretary is that the idea of the need of such inclusive organizations is world-wide, rather than peculiar to either these two countries or to the United States. We in America who have been so close to this situation and familiar with the work of the several committees on development of the engineering societies and with the discussion during the last few years of an organization for "welfare" work, had forgotten for the moment that such organizations were needed or considered just as much in other countries. While we have not even yet settled on the type of organization, two other countries at least have already effected preliminary organizations.

In the statement of the objects of the new National Association of Italian Engineers, the emphasis is on the personal and economic features, the same as it is throughout the world, with only two exceptions, in the stated objects of all technical and learned organizations of all descriptions. That is, the new Italian society is no better and no worse in this respect than other professional bodies, either in our own country or other countries. The organization is an advance only in its inclusive character, in that it is constituted to undertake the economic and welfare features of the profession of engineering as well as the technical. In our country so far there has been a tendency to continue the conservative and strictly professional work of the national engineering societies as the sole activities of those societies, and to favor a separate organization of some kind to undertake the other activities.

With the forward movement in ideals of our nation, as was evidenced in our altruistic participation in the war, the Secretary had hoped that the professional engineering societies would respond and put the emphasis on their service for the good of the community as the principal object of their organization. This can be done without in any way neglecting the economic and so-called "welfare" work, which we all must consider in order to live. The Secretary believes in practical Christianity. Or, to put it another way, he would like to see our scope of activities include at the beginning the objects for the common good and conclude with consideration of economic features, remuneration, etc. As we have not yet determined on the type of organization for the engineering profession in the United States which is to undertake such activities as agitation for a National Department of Public Works, conservation of natural resources, uniform laws for the registration of engineers, etc., there is yet an opportunity to make these objects the first attention of the organized societies of the profession.

The Italian organization is avowedly one of defence, that is, to place the engineering profession on an equal plane with that of law and medicine in Italy. The following are quotations:

a To obtain and preserve . . . . the place which belongs to the class of engineers.

b To secure the necessary legislative measures for the protection of the title, standing and professional rights, and particularly the legal recognition of the orders of engineers.

c To defend with all possible energy, the economic interest of the class, and promote the representation of Italian engineers in industrial enterprises in Italy.

Then follows a number of similar features such as professional standing of engineers, recognition of the association, civil and military representation, including education, publicity, etc., etc.

The Secretary has never held that such objects for a technical, professional or learned society are undesirable in themselves, but he has stated that the emphasis should not be placed on these objects to the exclusion, in most constitutions, of any stated object of the higher aims which it is now beginning to be recognized should characterize the organizations composed of professional men.

The proposed Indian Society of Engineers will be under the direct patronage of the Viceroy of India, who will preside at its opening meeting this month. Our Past-President, Mr. John R. Freeman, is en route to India, but I very much fear he will not be able to reach there in time to participate in this auspicious function. Another Past-President, Mr. Jesse M. Smith, is about to sail from San Francisco for the Orient and will pass through India on his tour of the world, and it is the intention of the Secretary to acquaint both of our past-presidents with the formation of this new National Society and of the cordial invitations extended by Mr. Hughman, one of the organizers, and the honorary secretary of the India Center of the Institution of Electrical Engineers of Great Britain, to call upon the prospective president of the new society, Sir Thomas Holland, K.C.S.I., K.C.I.E.

Although I have not seen the prospectus of the proposed Indian Society yet, I can judge from Mr. Hughman's statements that whereas it will require the highest professional attainment of any professional engineering society and will be inclusive in its objects of all phases of the work of the professional engineer, yet I can see that it will be primarily tending, if not quite, to be devoted to the higher aims of the profession such as association with the Chambers of Commerce, the Port Trusts of India, etc., and to deal with the questions of engineering standards for India, and the engineering departments of the government even to such a degree as to make it compulsory possibly on the part of those departments to consult with the new society.

It is obvious that only the greatest degree of self-sacrifice and devotion to the public good on the part of the leading members of such an organization can bring about these results.

The Indian society expects to have a central engineering building with branch buildings and libraries in Calcutta, Bombay, Delhi, Lahore, Karachi, Burma, Madras and Ceylon. Special attention will also be given to the education of the Indian engineer in India.

Just before the Annual Meeting of our Society the Secretary attended in Detroit an Inter-Professional Conference made up of the representatives of over twenty-two professions, including law, medicine, dentistry, architecture, engineering, etc. The objects of the conference were to determine:

(1) possibilities of coöperation between the professions for the common good

(2) a comparison of ethical standards of the different professions; how far they are socially minded; how far self-regarding

(3) how the idea of obligation for public service can be extended among the professions

(4) whether the enthusiasm of war-time service to the Government can be perpetuated in any appreciable degree

(5) how a better qualified technical service can be secured to the federal, state and municipal Governments

(6) how public opinion can be directed to the necessity for this service

(7) how education for the professions can be made more real as to the problems of today

(8) whether the men in professional practice are in sufficiently close touch with technical educational institutions

(9) what can be done to spread, in the high schools and colleges, knowledge of the significance, ideals and functions of the several professions.

The above illustrates the trend of thought today, and it becomes every member of the Society to associate himself actively in the development of our ideals. In my mind a way open to every one is to commence in the local professional organization in the community where he lives, and in turn to see to it that that association is a force for good in all features of the community life in which the technical professional man's special knowledge can serve that community.

In the coming month in Washington will be the second conference called by the National Public Works Department Association to further the movement for a separate National Department of Public Works headed by a cabinet officer. This is something behind which every man should get and he should see to it that he is posted on all of the arguments in its favor and acquaint all chambers of commerce, merchants' associations, civic bodies, rotary clubs, etc., throughout the country of the benefit to the nation from such a coöperative department for undertaking the engineering work of the nation.

CALVIN W. RICE,
Secretary.

Council Notes

Three meetings of the Council were held at the time of the Annual Meeting. The first was held on Monday, December 1, the day before the opening of the Convention, and was the regular November meeting advanced in date to take advantage of the presence of the Council members at the Annual Meeting. The second was held on the following day and was the last meeting of the 1919 Council. The third meeting, held on December 5th, was the first meeting of the Council for 1920.

At all of these meetings important matters of policy of the Society were taken up and some of these are elaborated into separate articles in this issue. The following is the usual brief account of the business transacted, and the special articles supplement this account:

Probably the most important business was a vote to put on record the desire of the Council to amend the Constitution of the American Engineering Standards Committee at a future date in order to define more explicitly the machinery by which this Committee is to function and its relations to the bodies represented in its membership and the methods of its approval of standards prepared by them. It was pointed out that in its recent action to approve the revised Constitution of this Committee, the Council was acting uniformly with the other Founder Societies for the purpose of permitting the A. E. S. Committee to get under way and it was realized at the time that even the revised Constitution had weaknesses and could be very much improved. Those who have followed the actions of the societies in creating and developing the American Engineering Standards Committee will appreciate the difficulties which have confronted the organizations and will be sympathetic with the earnest desire of all the societies to provide ultimately a satisfactory organization for the promulgation of engineering standards of all kinds.

The Council formally endorsed the publication by the National Research Council of Critical Tables of Physical and Chemical Constants. Mr. Hugh Moore, representing the National Research Council, appeared before our Council to solicit its endorsement, and it was made upon the recommendation of Prof. C. A. Adams, the new Chairman of the Engineering Division of the National Research Council.

The President reported that as the Society's representative he had attended several functions, including the conferring of the degree of Doctor of Engineering by Stevens Institute of Technology on M. Eugene Schneider, son of the late Henri Schneider, Honorary Member of the Society.

A question of the payment of dues of members in foreign countries under the present rates of exchange was referred to the Joint Finance Committee of the Founder Societies. The present By-Law remitting dues of members in active service was ordered rescinded, except for those men still overseas.

The Committee on Meetings and Program reported that the date of the Spring Meeting had been set for May 24-27, at St. Louis.

Interpretations of the Boiler Code Committee, passed at the meeting of that Committee on October 24, were approved.

Besides the other regular business of the Council, actions were taken to discharge with thanks the Committee on Increase of Membership and the Committee on War Industries Readjustment, and to continue the Committee on Code of Ethics. The President was empowered to appoint representatives of the Society to the second conference on Public Works to be held in Washington beginning January 12, 1920.

At the above meeting there were present: President M. E. Cooley, presiding; Vice-Presidents John Hunter, Spencer Miller, Max Toltz, Fred R. Low, Henry B. Sargent; Managers Robert H. Fernald, William B. Gregory, D. Robert Yarnall, Charles L. Newcomb, Charles Russ Richards, Frank O. Wells; Past-Presidents James Hartness, Ira N. Hollis, Charles T. Main; Chairmen of Standing Committees of Administration: Dexter S. Kimball, Chairman Committee on Meetings and Program; George A. Orrok, Chairman Committee on Publication and Papers; S. D. Collett, Chairman Committee on Membership; and Calvin W. Rice, Secretary.

DECEMBER SECOND

The regular December meeting was held on December 2, and there were present: M. E. Cooley, President, presiding; Vice-Presidents Spencer Miller, Fred R. Low, Henry B. Sargent, John A. Stevens; Managers Robert H. Fernald, William B. Gregory, D. Robert Yarnall, Charles L. Newcomb, Charles Russ Richards; Past-Presidents James Hartness, D. S. Jacobus, Ira N. Hollis, Charles T. Main; Chairmen of Standing Committees of Administration: A. E. Forstall (Acting, Finance Committee), D. S. Kimball (Committee on Meetings and Program), George A. Orrok (Committee on Publications and Papers), S. D. Collett (Committee on Membership), D. Robert Yarnall (Committee on Local Sections), Ira H. Woolson (Committee on Constitution and By-Laws). By invitation, President-Elect Fred J. Miller, I. E. Moultrop, Society's representative on the United Engineering Society, and Charles Whiting Baker, Society's representative on Engineering Council, Henry Hess, Standing Committee on Standardization, and Worcester R. Warner, and Calvin W. Rice, Secretary.

In the spirit of the recommendation of the Committee on Aims and Organization that tenure of officers on special committees be limited, a new Committee on Committees was appointed to consider and report back to the Council. This Committee consists of D. S. Kimball, chairman of Meetings and Program Committee for 1919; Arthur M. Greene, Jr., chairman of Research Committee for 1919; F. R. Low, chairman of the Power Test Codes Committee; D. S. Jacobus, chairman of Executive Committee of the Boiler Code. President Cooley was appointed chairman of this Special Committee.

The important question of admission of women to membership was taken up and on the legal opinion of the counsel of the Society and the recommendation of the Committee on Constitution and By-Laws, the Committee on Membership was instructed to hereafter consider applications from both sexes without distinction.

On the recommendation of a special committee appointed to investigate, the Council voted that it was inadvisable for the Society to acquire membership in any other society or organization, such as Chambers of Commerce, National Industrial Conference Board, etc.

Reports were received from the representatives of the Society on committees engaged in the joint activities of the Founder Societies including United Engineering Society and Engineering Council.

The Council approved the formation of professional sections and authorized a Committee to report on the proper organization, the policy, the fields of activity and the financial aspects of conducting the work of professional sections. President Cooley and President-elect Miller were to appoint the Committee and they themselves be members.

On the application of the Committee on Local Sections for additional appropriations, the Council voted to transfer funds available from the appropriation to the Increase of Membership Committee, discharged the previous day, and to take the remainder from surplus. The Local Sections Committee require $3800 additional for the first six months.

The preliminary report of the Sub-Committee of the Boiler Code Committee on Air Tanks and Pressure Vessels was received and ordered printed in MECHANICAL ENGINEERING for discussion. Typographical corrections were approved to interpretations 186, 228, 255 and 260.

DECEMBER FIFTH

This was the first meeting of the statutory Council for 1920 and was held on the adjournment of the Fortieth Annual Meeting.

President M. E. Cooley called the meeting to order at 2 P. M. and introduced the new President, Major Fred J. Miller, the new Vice-Presidents, J. R. Allen, R. H. Fernald; and the new Managers, E. C. Fisher, D. S. Kimball, E. F. Scott, and L. E. Strothman.

There were also present: Vice-Presidents Fred R. Low, Henry B. Sargent; Managers D. Robert Yarnall, Charles L. Newcomb, and Charles Russ Richards; Past-Presidents D. S. Jacobus, Ira N. Hollis, and Charles T. Main; S. D. Collett, Chairman of the Committee on Membership; and Calvin W. Rice, Secretary.

Dr. W. F. M. Goss, Society's representative on the Engineering Foundation, and General Tracy C. Dickson were also present by invitation.

General Dickson requested that the Council take such action as it deemed advisable to secure for the Ordnance Department of the United States Government an organization which would enable it, in event of another war, to have the proper personnel. A committee of three was appointed, the President to be a member, to consider and report back.

The Council received and adopted a recommendation from the Annual Meeting that a committee of five members be appointed on the subject of Industrial Relations and authorized the President to appoint the committee, to study and report back to the Council what part of this Society should take in this question. The resolutions from the Annual Meeting are published in a separate article.

The Council received the names of the members elected by the Annual Meeting on the regular Nominating Committee for 1920. These names are given in a separate article in this issue, which also reviews the evolution of the election of this Committee by the voting membership.

The report of the Joint Conference Committee of the Founder Societies recommending a scheme of organization of the engineering profession was received from the Annual Meeting and the Society's four representatives on this Committee were reappointed to serve until the expiration of this Council. Our representatives on the Joint Committee are L. C. Marburg, D. S. Kimball, L. P. Breckenridge and E. S. Carman.

Appointments were made on the Joint Activities. E. G. Spilsbury was reappointed on the Board of Trustees of the United Engineering Society; President Miller, Charles T. Main and Arthur M. Greene, Jr., were appointed on Engineering Council; Henry B. Sargent was elected on the John Fritz Medal Board of Award; Charles Whiting Baker was reappointed as the representative of the Society on the Western Society of Engineers, Committee on Washington Award; Ira N. Hollis and Lewis Gustafson were appointed as Honorary Vice-Presidents to represent the Society at the St. Louis meeting of the American Association for the Advancement of Science, December 1919.

A Student Branch at Lafayette College was approved.

The Chairman of the Committee on Local Sections reported that the Local Sections delegates to the Annual Meeting had organized and appointed a Chairman and Secretary.

Amendments to the By-Laws presented for first reading at the regular meeting at Indianapolis passed final action. These included amendments to change the words "The Journal" to "Mechanical Engineering," also the By-Laws, and to change the subscription price of this publication. The Committee on Constitution and By-Laws also gave notice of the following amendment to By-Law 27 to be in effect for 1920 only and to legalize the action of the Society at the Annual Meeting to elect the Nominating Committee for that year:

> The nomination of the members of the Nominating Committee for the year 1920, made by the delegates of the Local Sections at their session commencing December 2, 1919, shall, if unrevoked, be a sufficient nomination of such committee by said delegates within the intendment of these By-Laws.

CALVIN W. RICE,
Secretary.

Notes of the Month

On the recommendation of the American Society of Civil Engineers, the Four National Engineering Societies are considering a scheme for the publication of a professional directory of engineers.

Dr. Ira N. Hollis and Professor Lewis Gustafson will represent the Society at the Seventy-Second Meeting of the American Association for the Advancement of Science to be held in St. Louis from December 29, 1919 to January 3, 1920.

The Second Conference of the establishment of the National Department of Public Works is to be held in Washington, D. C., beginning on January 13. Seventy organizations were represented in the first conference, which was held in Chicago, and it is expected that practically all of these will again send delegates. The Society has appointed Mr. Charles Whiting Baker, one of its representatives on Engineering Council, to act as honorary vice-President and represent the Society on the occasion; and President Miller is calling on the Local Sections to respond to the invitation of Mr. M. O. Leighton, chairman, and send delegates to the Conference.

The Committee on Committees, authorized by the Council to make a study of the special committees of the Society, will welcome suggestions from any member on the conduct of the committee work.

All members who have not done so are invited to send in discussions of the report of the Joint Conference Committee of the Founder Societies. This report, together with that of our own Committee on Aims and Organization was mailed to the entire membership in advance of the Annual Meeting. A synopsis of the discussion of the two reports is being printed elsewhere in this issue.

In a recent compilation of the members of the four national socieities in the Metropolitan District made by the Engineering Council for the purpose of addressing an appeal for funds, it was found that less than 4½ per cent were duplicates. In this district there are only four men who hold membership in all four societies.

President Winchell and Secretary Stoughton of the Mining Engineers are out on a trip to the coast in the interest of the development of their organization.

The standardization of shafting sizes has been very thoroughly considered by the Society's Committee appointed about a year ago, and the Committee is to submit its report at the January meeting of the Council. This report will recommend a list of standard sizes for transmission shafting, and a second list of standard sizes for shafting used in machinery manufacture.

As stated in a recent issue of MECHANICAL ENGINEERING a meeting of the Commission for an International Standard Pipe Thread was to have been held on November 10, 1919. This date was changed to January 12, 1920. In the meantime the Society's Committee on International Standard for Pipe Threads working in coöperation with a committee of the American Gas Association and assisted by the Committee of Manufacturers on Standardization of Fittings and Valves worked energetically to prepare material to present in a satisfactory and convincing form the American Standard Pipe Thread to the International Commission. At the suggestion of the joint committee a manual on American standard pipe threads was prepared and printed in pamphlet form by the Manufacturers Committee. This manual contains a

brief history of the standard, full notes on its technical features and a large number of sketches and tables giving the dimensions and tolerances of the standard threads for various sizes of pipe.

The Society's Committee on Protection of Industrial Workers is to hold a meeting on January 5, at which time it expects to take final action on the Elevator Code which it has been developing for a number of years. The Committee plans to distribute printed copies of this code quite generally for suggestions and criticisms before it is submitted to the Council.

Sponsorships under the American Engineering Standards Committee. At a recent meeting of this committee, the Society was requested to act as sponsor or joint sponsor in the forming of a Sectional Committee to develop standards for Ball Bearings; Small Tool and Machine Tool Elements; Plain Cylindrical Limit Gages; Nuts and Bolt Heads; Spur, Bevel, Worm and Sprocket Gears. The Standardization Committee has considered these requests and the correspondence which prompted them, and has decided to recommend to the Council the acceptance of sponsorship in each case.

On Housing the Annual Meetings

Those who planned the Engineering Societies Building little thought that within a few short years the spacious facilities of the building would grow to be inadequate, but it is a fact, that our Annual meeting seriously taxed these facilities and especially at the Annual Reunion on the Thursday night of the Convention, so much so that it is a question whether the Society can continue to hold all the functions of the Annual Meeting within the walls of the one building. The figures of those who registered have not yet been compiled to show the proportion of out-of-town members and guests to those residing in New York City, but there was certainly a very large registration from out of town, and if only one-fifth of the New York members came to the meeting their delegation of 500 would be no small proportion of the total of 2200 registered. The contingency of practically every member from New York attending has never yet had to be met, but with the interest in the Annual Meetings increasing each year, this too may not be an impossibility; in which case, the holding of a convention within the Engineering Societies Building would of course be entirely out of the question.

From now on, the Committee on Meetings and Program will be confronted with quite a problem in handling the Annual Meeting, and it would not be out of place to invite suggestions from members, especially those who enjoyed the experience of the convention just held, as to how the problem can be met. In discussing this question, we should bear in mind that the Spring Meeting is becoming of greater interest and importance and certain features of the Annual Meeting might logically be referred to the out-of-town convention. Also, the Society has successfully inaugurated a policy for joint meetings of the Local Sections.

Let us contemplate the conditions when we have 20,000 members (the membership is now around the 12,000 mark and at the present rate of increase, we shall reach the 20,000 mark by about 1924); when we have Local Sections in every state and city in the country (we have 31 sections now), and when the business before the Society becomes so voluminous by virtue of constantly increasing activities that we may have to have administration offices in cities other than New York.

Prizes to be Awarded by the Society

The Committee on Relations with Colleges will consider papers prepared by junior members and by members of the student branches respectively and will recommend to the Council the following awards:

1 The Junior Prize of $50 and an engraved certificate for the best paper by a Junior member received before June 30, 1920.

2 Two Junior Prizes of $25 each and an engraved certificate for the two best papers by members of Student Branches presented before June 30, 1920.

Papers for these competitions are solicited and will be adjudged from the standpoints of originality of matter, applicability, value as contributions to mechanical engineering literature, logical development of contents, conclusiveness, completeness, and conciseness.

Further particulars of these awards will be published in the 1920 Year Book, which will be issued early in the year, and such information may also be obtained upon application to the Secretary.

Conference on Professional Employment

A conference on a nation-wide professional employment service will be held in the Engineering Societies Building on January 9 and 10. This conference is called to discuss the exact status of professional employment work in this country and to consider the desirability of a nation-wide professional employment service for men and women on a non-governmental basis.

This conference is the outgrowth of an action taken in Chicago, on October 23, that:

"The Executive Committee of the National Committee of Bureaus of Occupations shall constitute a committee with additional members-at-large to invite a group of professional men interested also in the employment of professional workers, to meet in joint conference for the discussion of the advisability of establishing a chain of offices and for the formulation of an immediate program."

Amendments to the Constitution and By-Laws

Amendments to the Constitution as proposed by the Committee on Aims and Organization at the last Spring Meeting in Detroit were presented for discussion at the Annual Business Meeting. Practically no change was ordered by this meeting and the status of the amendments is now that they will be sent out for letter ballot on March 1.

Anticipating these constitutional amendments, the Committee on Constitution and By-Laws has been studying the By-Laws and will be ready to make recommendations to the Council of amendments when necessary.

The Committee on Constitution and By-Laws has also been actively engaged in bringing the By-Laws up to date, and has recommended to the Council several slight but necessary changes.

Details of these amendments would take considerable space and instead of publishing them here, they will be given completely in the Year Book for 1920, which will contain the Charter, Constitution, By-Laws, Rules and Index.

Professional Sections

An amendment to the Constitution is before the Society to create a Standing Committee of Professional Sections. Pending action on this amendment, the Council has approved the policy of inaugurating Professional Sections and has authorized a Special Committee to report on the various aspects of such an organization such as local work, finances, meetings, etc.

The new policy is in line with recommendations of the Committee on Aims and Organization and is intended to provide for those groups of men in the Society who are interested in particular subjects and may therefore be subdivided professionally in the same way that the Local Sections groups provide a geographical subdivision of the membership.

Many organizations have developed such an activity to a high degree and in one or two instances the groups have been emphasized more than the geographical groups. For some time there has been a feeling in our own Society that this kind of an organization should be provided, and in fact three years ago when elaborate by-laws were prepared for the Local Sections the opportunity was utilized of drawing up similar by-laws for Professional Sections. These by-laws have already been adopted (B47a-h) and pending the formulation of the recommendations of the Special Committee on Professional Sections to study the subject they may be consulted by members who are interested in the development of this new activity.

Suggestions on any phases of the subject will, of course, be gladly received by the Special Committee.

Recommendations on the Policy of the A. S. M. E.

As Made by Their Committee on Aims and Organization; and on Engineering Organization as Contained in the Joint Conference Report of the Four Founder Societies

ONE of the main features of the Annual Business Meeting of The American Society of Mechanical Engineers was a discussion of basic recommendations on the policy of the Society as contained in the report of its Special Committee on Aims and Organization which has been working over a period of sixteen months. These recommendations were supplemented by a report of a "Joint Conference Committee" of the four Founder Societies, organized this summer to coördinate similar recommendations on policies formulated by special committees of the other three societies and to make recommendations on organization in general.

The Society's Committee on Aims and Organization was composed of members from all its Local Sections with a few members-at-large, and the original recommendations of this Committee were presented to the Society at its Spring Meeting in Detroit, Mich., June 1919, and were there accepted with certain amendments. These original recommendations and the discussion thereon were published in MECHANICAL ENGINEERING, July 1919, page 601. Subsequent to this discussion, the Council of the Society requested the Committee to present its final recommendations, which was done, and the report was referred to the Annual Business Meeting as stated above. The status of the report is now that the Council will discuss ways and means of putting the final recommendations into effect. A similar procedure will apply to the Joint Conference Report, this Society acting in unison with the other three societies.

CHANGES IN THE COMMITTEE'S RECOMMENDATIONS

The final Report of the A. & O. Committee distributed at the Convention followed the form of the preliminary report as published in MECHANICAL ENGINEERING in July last, with the same paragraph numbers as the preliminary draft, except that explanatory paragraphs were omitted. The omitted paragraphs are Nos. 3, 5, 13, 14, 23-26, inclusive, and 45-51, inclusive. The wording of the paragraphs in the final report is that of the previously published report, except in Pars. 16 and 32. With regard to Par. 16, having to do with the development of MECHANICAL ENGINEERING, the Committee say:

> The Committee is unwilling to accept the modification (proposed by the Spring Meeting) and has returned to the intent and phraseology originally offered. There are two reasons for taking this position: First, discussion of this resolution in the business meeting at Detroit did not turn on the merits of the proposal, but was unfortunately, and the Committee believes improperly, directed toward the financial aspects of more frequent publication of MECHANICAL ENGINEERING. The Committee advisely recommended the change at *the earliest possible date*, realizing that the financial aspects involved would have to be carefully considered by the Council.

The action of the Spring Meeting on Par. 32, having to do with the creation of a national agency representative of local groups, state groups and national societies, fully empowered to act and speaking in the name of the engineering profession, was also not accepted by the Committee, which commented as follows:

> The Committee is unwilling to accept this modification and has returned to the intent and phraseology originally offered.
>
> It takes this position because its recommendation is in line with that of the other three national societies and has recently been endorsed by the Joint Conference Committee.

DISCUSSION OF THE REPORT

The report was considered section by section, being presented by the Chairman of the Committee, L. C. Marburg, and occasioned no discussion until Harrington Emerson read a written discussion of Par. 10, in which he objected to the inclusion of Industrial Engineering as a major technical subject for consideration by the Society.

In presenting Par. 12, Mr. Marburg said he wished to emphasize the fact that it recommended active interest of the Society in vocational training not only in shops for a particular kind of engineering work, but with the possibility of securing systematic coöperation between industry and institutions of industrial education formed by municipalities or states. He called attention to what had been done along these lines abroad, and to the fact that in Connecticut and in Wisconsin, and possibly in some other states, the laws provided that boys should be given instruction in the theoretical aspects of their work.

Ira Dye[1] expressed his approval of the recommendation, but Harrington Emerson took the stand that this was the educator's business and not the Society's. L. P. Breckenridge[2] contended that the engineer could no longer deal exclusively with materials and machines, but must also include men. Arthur L. Williston[3] said that educators had been trying to get the coöperation of the industries in vocational training for the past ten or fifteen years, and had found it difficult. The engineer, he thought, ought surely to appreciate the need of this training and of coöperation to obtain it. H. H. Suplee[4] gave James Nasmyth's definition of mechanical engineering as common sense applied to materials, and suggested that if this definition was accepted it would cover all the points of the paragraph under discussion. Fred J. Miller,[5] L. S. Randolph[6] and A. A. Reimer[7] also spoke in favor of the recommendation, which after being duly considered was favorably voted upon.

Discussing Par. 12, C. E. Brooks[8] wrote that he considered industrial education below the grade of college work one of the most important questions facing the public, and gave the following reasons:

a It assists the youth to decide definitely concerning his aptitude for industrial work

b It enables the authorities to offer additional educational advantages to those who show adequate proficiency

c It enables the industries to obtain men already prepared in the rudiments of industrial training

d It provides universities with a class of men bent upon the definite objective of industrial development work

e It provides the people at large with a rudimentary knowledge of the basic principles of industry, so that in crises they will be better able to overcome the difficulties of the industrial situation.

Commenting upon Par. 17, which recommends some less expensive method of publishing TRANSACTIONS, the Secretary announced that the Publications and Papers Committee had arrived at no conclusions. He said that the American Institute of Mining and Metallurgical Engineers were planning to enclose the unfolded sheets of their Transactions in the monthly bulletin so that they could be bound at the individual expense of the members as desired.

Speaking with reference to Par. 20 on the Engineering Societies' Employment Office, the Secretary said:

> Our Society has maintained an Employment Service for a quarter of a century. Just a year ago the Engineering Societies' Employment Bureau was organized and it is functioning well. Each of the societies is now contributing in excess of $250 a month to the support of the joint Bureau.
>
> In the employment activities, the National Societies have, by inference, in the popular mind, not been doing as much as they should. The consequence is that there seemed to be a place for the American Association of Engineers. It is interesting to compare their activities

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[1] Asst. Gen. Mgr., Weir Frog Co., Norwood, Ohio.
[2] Professor of Mechanical Engineering, Sheffield Scientific School, Yale University, New Haven, Conn.
[3] Principal, Wentworth Institute, Boston, Mass.
[4] Cons. Engr., 409 Riggs Bldg., Washington, D. C.
[5] Center Bridge, Pa.
[6] Cons. Engr., Blacksburg, Va.
[7] Community Director, Air Nitrates Corp'n., Muscle Shoals, Ala.
[8] Superintendent of Motive Power, Grand Trunk Pacific Railway, Transcona, Man

with ours. The following is a comparison over a recent three-months' period:

	A. A. E.	Eng. Soc. Emp. Bureau
Positions received	1084	946
Applicants introduced	2985	5909
Members placed	264	371

In presenting Pars. 27 to 33, Recommendations Concerning National Organization, L. C. Marburg urged a greater activity by engineers in public affairs. It was not a question of the individual vote of the engineer as a citizen, but his influence as a member of an organized profession in the solution of problems requiring the training and education of experts which would count for most in effective government. He said that groups of men of special training such as engineers should organize and make their influence felt. As to organization, the Committee felt that as most problems were local, the organization should be along local lines, forming state groups from these and a national organization in which the state groups would be represented. This national organization would also include representatives of the National Societies.

Report of the Joint Conference Committee

In order to clarify the discussion which took place regarding the Recommendations Concerning National Organization, Pars. 27 to 33, and the remaining paragraphs of the Report of the Committee on Aims and Organization on Recommendations Concerning Activities of a National Organization, it will be necessary to give a synopsis of the Report of the Joint Conference Committee, which has heretofore not been published in MECHANICAL ENGINEERING.

The conferrees representing The American Society of Mechanical Engineers on the Joint Committee were Louis C. Marburg, Chairman; Edwin S. Carman, Dexter S. Kimball. L. P. Breckenridge was added later.

The report is divided into two parts, that covering public activities and that covering society activities of common interest to the four Founder Societies. Only a few of the most important sections of the report are treated in this synopsis, which immediately follows.

1 COÖPERATION IN PUBLIC ACTIVITIES

It was the unanimous opinion of those present at all conferences that one of the most important matters on which joint action can be taken is the formation of a single comprehensive organization to secure united action of the engineering and allied technical professions in matters of common interest to them.

In presenting its report upon a proposed form of organization which shall provide a voice to speak for the ideals of the profession, a hand to enforce unity of action and render the maximum of national, social and political service, the Committee presents for consideration the following plan.

In preparing this plan the Committee has recognized that there exists in Engineering Council a tool which is engraving an honorable record on the pages of professional history, but its limitations are well known and its poverty is chronic. If desired, Engineering Council can be molded into this organization by making it more democratic and founding it on direct representation of all engineers, rather than on appointment as at present.

Every new activity, to be effective, means work and needs money. A movement such as proposed, if undertaken without sufficient funds, would not only prove barren of results, but by failure would bring ridicule upon the profession. In advance of its organization no definite budget can be prepared. The revenues proposed are moderate, and are based on the experience of Engineering Council, which, while called upon to occupy an ever-widening field, has been continually handicapped by limited resources.

In submitting the proposed fundamentals to govern a single comprehensive organization by which the engineering and allied technical professions may become more active in their service to the public and themselves, the Joint Conference Committee would point out the following as among some of the objects to be attained by such an organization:

1 To render the maximum of service to the nation through unity of action

2 To give the engineers of the country a more potent voice in public affairs

3 To secure greater recognition of the services of the engineer, and to provide for his advancement

4 To promote *esprit de corps* among the members of the profession

5 To provide the machinery for prompt and united action on matters affecting the profession, among which are:

Licensing and registration of engineers
National Service Committee
National Department of Public Works
Conservation of national resources
Publicity
Classification and compensation of engineers
General employment bureau
Engineering Education
International affiliation of engineers
Industrial relations.

National Engineering Organization

Component Parts of Organization. 1 Local Affiliations, preferably under the auspices of local engineering societies or clubs, as follows:

a "Local Associations" or "Sections" of the national engineering or technical societies;

b Local engineering societies; and

c Other local engineers and members of allied technical professions and associates.

2 A National Council, consisting of representatives of national engineering and technical societies and of representatives of local, state or regional affiliations or organizations.

The formation of State Councils, composed of representatives of the local affiliations within the State or otherwise representative of the majority of the engineers and members of allied technical professions in the State, is desirable as conducive to coöperation and to further the objects of the National Council with which such State Councils should harmonize; and such State Councils are recommended wherever and whenever the local conditions warrant.

National Council

Purposes. The National Council is created to consider national matters of public welfare with which the engineering and allied technical professions are concerned, as well as other matters of common interest to these professions, in order that united action may be possible in matters of national scope.

Basis of Representation. Each local, state or regional affiliation or organization whose membership is not otherwise represented than through the national engineering or technical societies, shall be entitled to one representative to the National Council for a membership of from 100 to 1000 inclusive, and one additional representative for every additional 1000 members or major fraction thereof.

Each national engineering or technical society shall be entitled to one representative for a membership of from 200 to 2000 inclusive, and an additional representative for every additional 2000 members or major fraction thereof.

Executive Board. There shall be an Executive Board which shall direct the activities of the National Council in accordance with its adopted policies. It shall have such other functions as may be assigned to it by the National Council.

The Executive Board shall consist of the four officers elected by the National Council and one representative for each national society of 2000 members or less, with one additional representative from each national society for every additional 2000 members or major fraction thereof, to be selected from the membership of the National Council in each case by the national society concerned, and of a number of representatives selected from the membership of the National Council by the representatives therein of the local, state or regional affiliations or organizations, the said number to bear the same ratio to the representation of the national societies as the total membership of the local, state or regional affiliations or organizations bears to that of the national societies; provided that the numerical basis of representation shall be so changed from time to time that the membership of the Executive Board shall not exceed thirty (30).

The President and Secretary of the National Council shall be the Chairman and Secretary, respectively, of the Executive Board.

2 COÖPERATION IN SOCIETY ACTIVITIES

Coöperation in Professional Activities. The Committee recommends that the growing coöperation in the activities of the Societies be fostered. The unified operation of the libraries, the organization of Engineering Council, American Engineering Standards Committee, Engineering Foundation and Employment Service, are conspicuous examples of such common action. Joint committees for definite purposes should be established, and standing or other committees directing similar activities in the several societies would profit by conference. In this way common action may be taken or similar policies may be adopted when advantageous, thus avoiding duplication of effort. Comprehensive means should be provided for united action in other large professional and technical matters.

Industrial Relations. The question of industrial relations is one of the most pressing issues of the present day. It is a vital factor in the economic future of the country. It is a matter with which the engineer is peculiarly fitted to deal. In view of the great importance of the subject, and of the unique relation of the engineer to industry, the Joint Conference Committee recommends that Industrial Relations

should be a major subject for the consideration of the engineering and allied technical professions. It is also recommended that support be given to educational movements, such as the Industrial Service of the Y. M. C. A. in colleges, the Americanization movement, and similar activities.

Student Organizations. The Committee recommends that it be the duty of local associations and sections of the National Societies to promote and assist general student engineering societies in neighboring universities and technical schools, to provide carefully selected speakers, and to maintain personal contact with such societies. In view of the desirability of more intimate coöperation among engineers, consideration of the affiliation of the student branches of the national societies into general student engineering associations is recommended.

The American Engineer in Foreign Service. It is the opinion of the Committee that American engineers in foreign countries should be urged to assemble for purposes of better acquaintance and mutual help, and to fraternize with the engineers of the country in which they reside, for the promotion of world-wide coöperation.

Standards. The Committee is unanimously of the opinion that the correlation of standards by the four societies and others working with them, along the lines contemplated by the American Engineering Standards Committee, should be approved in principle; but in view of the fact that this matter is under consideration by the Boards of Direction of those societies and the matter is well advanced, this Committee does not feel warranted in making a further recommendation.

Licensing and Registration of Engineers. The Committee of Engineering Council that has had under consideration the licensing and registration of engineers has nearly completed its draft of a standard form for a uniform law on these matters. Since it is undesirable to duplicate this work, the Joint Conference Committee recommends that action be deferred pending the receipt of that report.

Discussion on National Organization

In presenting the sections of the Report of the Committee on Aims and Organization dealing with National Organization and the Report of the Joint Conference Committee, L. C. Marburg said that the report represented the compromises which were necessary when representatives of the societies drew up a report to which they could all agree. The Committee recognized the infeasibility of preparing a perfect organization. The intention was to plan for an organization which would include half a million or more in its membership, every member anxious to contribute his share toward the common good. In transmitting its report to the Council, the Committee, he said, had asked first for the approval of the general characteristics and recommendations of the report, and second that the Council pass a resolution asking the Joint Conference Committee, or a similar constituted body, the other three societies concurring, to take the necessary steps to bring the recommendations into effect.

C. E. Brooks wrote that he considered every one of the recommendations of vital importance to the engineering profession, particularly Par. 31 of the report of the Committee on Aims and Organization, for the reason that he thought the engineering profession was receiving no national or industrial recognition. Its members, he said, when appointed to public office are often subject to the whims of politicians because engineers are unsupported by any organization which puts industry and progress first.

A. E. Van Ness expressed his approval of the work of the Committee as did Augustus Smith,[1] Ira Dye and Henry Hess. Morris L. Cooke[2] expressed the wish that the report had been that of a single representative conversant with the traditions and aims of all the societies and the ideas of representative engineers, rather than a compromise arrived at in a committee representing the four societies. He thought that the fundamental basis for the enthusiasm necessary to make a success of the national organization was lacking. He also criticised the machinery of representation on the proposed council.

Robert Sibley[3] told how an organization of engineers similar to that proposed had been worked out in California, its organization proceeding from the smaller individual groups to larger combinations as the need for combined action presented itself.

Charles Whiting Baker[4] reviewed previous attempts on the part of the societies to form a combined organization. As an example of the value of coöperative effort among members of the engineering profession he cited the reinstatement of some 350 engineers in the employ of the Rapid Transit Commission of New York City who lost their positions without notice. He said that he was not concerned about the details of the organization as he had faith in the ability of the Council of the Society to settle such matters, the great thing was coöperation among the engineering societies for the common good. Dexter S. Kimball and E. S. Carman spoke along similar lines, saying that the document was far from being perfect, but that the national organization was necessary and important.

Among those also taking part in the discussion were A. L. Williston, G. J. Parsons, Malcolm Libby, L. P. Alford, A. E. Walden, S. L. Castle, L. D. Burlingame, L. W. Wallace, and L. P. Breckenridge.

At the conclusion of the discussion of the recommendations, it was voted to accept the report of the Committee and to request the Council to appoint a committee in concurrence with the other Societies represented in the report to put its recommendations into effect.

[1] Pres., Bergen Point Iron Works, Bayonne, N. J.
[2] Cons. Engr., Finance Bldg., S. Penn Sq., Philadelphia, Pa.
[3] Editor, *Journal of Electricity*, Crossley Bldg., San Francisco, Cal.
[4] Pres., Baker Economic Transport Corpn., New York, N. Y.

LOCAL SECTIONS CONFERENCE

At the Sections Conference held during the Annual Meeting, the following Sections were represented by the delegates indicated:

Atlanta, W. J. Neville
Baltimore, W. W. Varney
Birmingham, Paul Wright
Boston, D. K. Dean
Buffalo, C. A. Booth
Chicago, G. R. Brandon
Cincinnati, J. T. Faig
Cleveland, C. H. Day
Colorado, T. L. Wilkinson
Connecticut, C. K. Decherd
Detroit, F. H. Mason
Eastern, N. Y., R. O. Alden
Erie, R. C. Stevens
Houston, H. W. Fletcher
Mid-Continent, H. P. Porter
Minnesota, H. S. Whiton
New Orleans, W. B. Moses
New York, G. K. Parsons
Ontario, R. W. Angus
Oregon, S. H. Graf
Philadelphia, L. H. Kenney
Rochester, V. M. Palmer
St. Louis, L. C. Nordmeyer
San Francisco, Robert Sibley
Washington, G. A. Weschler
Washington State, E. O. Eastwood
Worcester, H. P. Fairfield

At a meeting of the Committee on Local Sections held on November 30, the matter of increased appropriations for Sections was carefully discussed, and a committee made up of Messrs. J. T. Faig (Cincinnati), W. C. Brinton (New York), L. H. Kenney (Philadelphia), W. H. Kenerson (Providence), and Charles Russ Richards (Urbana, Ill.), was appointed by the Chairman of the Committee on Local Sections to make recommendations as to what change, if any, should be made in the present formula upon which appropriations to sections are made.

This committee reported in favor of an increase in formula for appropriations to $100 plus $1.25 per member; and this recommendation was presented to the Council the following morning by Mr. Yarnall, Chairman of the Committee on Local Sections. A special committee was appointed by the Council to confer with the Finance Committee and learn whether it would be possible for the Society to appropriate funds to meet the increased amount necessary if the appropriation recommended by the Committee on Local Sections was approved by the Council. It was found as a result of this conference that the unappropriated funds of the Society do not, at present, permit such an increase; but it is possible that about the first of April the actual income of the Society will be sufficiently in excess of the present estimated income to warrant the Council in allotting the additional amount.

Nominating Committee

At the Sections' Conference on December 2, the first item of business taken up was the selection of a Nominating Committee. This was authorized by Messrs. Parker and Aaron, legal counsel

of the Society, in lieu of any By-Law to govern the procedure as called for by paragraph C48 of the Constitution as amended last Spring. The Committee on Local Sections turned the meeting over to the delegates, who proceeded to elect C. A. Booth as Chairman. The Conference then approved the division of the Sections' delegates into seven groups, as follows:

(1)	Boston	628	
	Worcester	170	
	Connecticut	528	
	Eastern N. Y.	132	
	Philadelphia	739	
	Baltimore	131	2328 members
(2)	New York	2650	2650 members
(3)	Washington	186	
	Virginia	74	
	Atlanta	50	
	Birmingham	58	
	New Orleans	48	416 members
(4)	Rochester	57	
	Ontario	80	
	Buffalo	162	
	Erie	35	
	Cleveland	365	699 members
(5)	Detroit	331	
	Milwaukee	131	
	Chicago	594	
	Indianapolis	93	
	Cincinnati	194	1343 members
(6)	Minnesota	103	
	St. Louis	114	
	Mid-Continent	112	
	Houston	63	
	Colorado	59	451 members
(7)	Washington	59	
	Oregon	24	
	San Francisco	192	
	Los Angeles	97	372 members

An adjournment was then taken, during which the delegates from these groups agreed upon the selection of members of the Nominating Committee. In order to conform with the recommendation of the Committee on Aims and Organization, and the wording of paragraph C48 of the Constitution, the Chairman of the Sections' Conference, Mr. Booth, was directed to report this action to the members of the Society at the business meeting on December 3. This was done, and the members of the Nominating Committee and alternates so selected were formally approved, as noted on page 11 of Section Two.

The afternoon session of the Sections Conference was devoted to a presentation of the report of the Committee: "Five Years of Section Activity," which will appear in a subsequent issue of MECHANICAL ENGINEERING. Each of the delegates submitted a written report regarding the activities of his Section, and gave a brief outline of the activities. This interchange of ideas is always very helpful to the officers of our Sections.

The Council, at its meeting on December 1, passed the following resolution regarding the Increase of Membership Committee:

VOTED, That the Increase of Membership Committee be discharged and that a vote of thanks be given this Committee for the work it has done.

VOTED, That the work now done by the Committee on Increase of Membership can best be handled by the Committee on Local Sections, and that the appropriations formerly made to the Increase of Membership be now made to the Committee on Local Sections.

Therefore the work of the Committee on Increase of Membership now devolves upon the Sections, and in the development of the new organization to take care of this activity, each Section has been requested to appoint a local Increase of Membership Committee to take charge of this work. A few of the Sections have already taken such action, and reported the personnel to headquarters.

The suggested scheme of organization is that one member of the Committee on Local Sections act as Chairman of the national work on Increase of Membership, and that similarly one member of the Executive Committee of each Local Section act as Chairman for this activity in the territory of his Section. He might be given, under the general approval of the Executive Committee of the Local Section, power to appoint a Committee of whatever size he deems necessary to assist him in this work.

These committees should be appointed at once, and hold meetings to decide upon the plan of campaign which they wish to conduct, determine upon the literature to be prepared, etc.

Sections Meetings

ATLANTA:

November 24. Dinner and address by Dean Dexter S. Kimball, A Broader Field for the Engineer.

BALTIMORE:

November 13. The Treatment of Wastes in the Canning Industry, by Dr. J. H. Shrader, U. S. Department of Agriculture.
Some Problems of the Canning Industry, by J. C. Talliaferro, Continental Can Company.

BOSTON:

November 19. 2.15 P. M., Excursion to the Hood Rubber Co.
6.15, Dinner at Harvard Union.
Addresses: Employee and Service Department of Hood Rubber Co., by R. S. Quinby.
Rubber from the Crude to the Manufactured State, stereopticon illustrations, by Alfred A. Glidden, Genl. Mgr., Hood Rubber Co.
Discussion: Shall the Engineer be Licensed?

BUFFALO:

October 14. Manufactured Weather, by J. E. Bolling.
November 18. Peace Memorial Bridge, by Messrs. Eckert and Bagley.

CHICAGO: (Joint meeting with A.I.E.E., I.E.S., and W.S.E.)

November 24. Industrial Economics.
Personal Efficiency of the Employee, by Harold Almert, Consulting Engineer.
Electrical Power as a Factor in Effecting Economies and Increasing Production, by George H. Jones, Power Engineer, Commonwealth Edison Co.
Reaction of Labor to Intensive Lighting, by Edwin W. Tillson, Testing Engineer, Commonwealth Edison Co.
November 21. Successful Methods of Improving Human Relations, by Charles V. Scribner, V. P. and Chief Engineer, Business Service Corporation.
Results of an Americanization Program, by Alexander D. Bailey, Asst. Chief Engineer, Commonwealth Edison Co.
Discussion: A National Department of Public Works.

CLEVELAND: (with C.E.S.)

November 25. The Open Court Trial of Patent Cases, by the Honorable W. L. Day.

COLORADO:

October 24. Dinner and addresses:
Building Marine Engines and Ship Machinery, One Mile Above Sea Level, by William Lester.
The Government's Preparation for Educating the Disabled Soldiers, by Professor J. A. Hunter.
November 28. Industrial Education in the Denver Public Schools, by Joseph Y. Parce.
Discussions on Industrial Democracy and Industrial Education.

CONNECTICUT:

HARTFORD BRANCH

November 24. Precision Gages, by C. W. Weingar of the Precision Gage Laboratory, Pratt & Whitney Co., Exhibition.

MERIDEN BRANCH:

November 21. The Application of the Vacuum Tube to Radio Telegraphy, by Harold P. Donle, Radio Engineer, Connecticut Telephone and Electric Co.
December 19. Manufacture of Phonograph Records, by Fred L. Wood.

LOS ANGELES:

December 8. Address by A. H. Goldingham.

MINNESOTA: (with Student Br. of Univ. Minn.)

December 1. Problems Confronting Young Engineers, by Dean Lauder W. Jones.

NEW YORK:

November 26. Position of the Engineer in Modern Industry, by Charles Ferguson.

ONTARIO:

November 14. Dinner and address by General C. H. Mitchell.
December 18. Thirty Years' Progress in Boiler Construction in Canada, by N. Quesnal and James T. Lewis, John Inglis Co.

PHILADELPHIA:

November 25. Color Photography, by Henry Hess.
Smoker.
December 11. Oil as a Fuel, by Henry Thomas, Combustion Engineer, Sun Co., and E. H. Peabody, V. P., The Babcock & Wilcox Co.
(Joint meeting with A.S.H. & V.E.)

WASHINGTON:

November 20. War Inventions, by Colonel C. H. Hilton, War Invention Section, General Staff.
War Inventions and Their Application to Industry, by F. C. Colwell, Examiner, Patent Office.
Discussion: Department of Public Works.

WASHINGTON STATE:
November 24. Organization meeting, election of officers and adoption of a Constitution.

WORCESTER:
November 25. A National Department of Public Works, by Dr. George F. Swain, Harvard University.
December 16. Power, its Production and Distribution as applied to industrial plants, illustrated, by R. J. S. Pigott, Consulting Engineer, Bridgeport, Conn.

Dean Kimball's Visit to Atlanta

Dean Dexter S. Kimball visited the Atlanta Section on November 24. Twenty-one members of the Society met with him at dinner at the Hotel Ansley to discuss A. S. M. E. affairs. Later in the evening Dean Kimball addressed a meeting held under the auspices of the Affiliated Technical Societies of Atlanta on the subject of A Broader Field for the Engineer. The following day he went on to the Birmingham Section, where similar meetings were held. With his broad knowledge of Society activities, Dean Kimball was able to create much enthusiasm among the members in these two cities.

DINNER OF ATLANTA SECTION ON OCCASION OF DEAN KIMBALL'S VISIT

Nominating Committee for 1920

In the election of the regular Nominating Committee for the year 1920 by the Local Sections' conference at the Annual Meeting and in the confirmation of this election by the convention, the Society has taken the final step in a policy to secure absolutely democratic selection of the Nominating Committee.

Members will recall the history of this profound change in the determination of the government of the organization. The first step was taken five years ago when the President decided to call on the Local Sections for suggestions of names from which to make his constitutional appointments on the regular nominating committee. The plan was so successful that the next step was taken to change the Constitution, making it mandatory for this nominating committee to be elected by the voting membership. The third step, and the most difficult one, has been to provide the machinery for this election, and in arranging for this it has been necessary to coördinate the ideas of the Committee on Local Sections, the Committee on Constitution and By-Laws, and the Committee on Aims and Organization, all of whom have had special charges from the Council to take up this manner of election.

The final opinion of these three Committees was embodied in a resolution presented by the Committee on Aims and Organization at the Spring Meeting last June and referred by the Council to the Annual Meeting and accepted by that Meeting. Meanwhile, the old By-Law detailing the manner of appointing a Nominating Committee by the President having become obsolete through amendment of the Constitution, a legal opinion was obtained as to how the Nominating Committee for 1920 could be elected pending the time when the resolution of the Committee on Aims and Organization could be framed into a permanent By-Law. The opinion was that the Local Sections delegates at the Annual Meeting could take action and elect the Nominating Committee for 1920, and that this action if unrevoked could be framed into a special By-Law to be passed by the Council. This By-Law is now before the Council for consideration and reads as follows:

> The nomination of the members of the Nominating Committee for the year 1920 made by the delegates of the Local Sections at their session commencing December 2, 1919, shall, if unrevoked, be a sufficient nomination of such committee by said delegates within the intent of the By-Laws.

The action of the Society at the Annual Meeting was to confirm the names recommended by the Local Sections delegates and, therefore, to appoint the following committee for 1920:

GROUP	SECTIONS	COMMITTEE 1920	ALTERNATES
1	Boston Worcester Connecticut Philadelphia Baltimore Eastern N. Y.	H. P. Fairfield, Worcester	W. W. Varney, Baltimore, Md.
2	New York (Metropolitan Sec.)	George K. Parsons, New York City	H. G. Tyler, New York City
3	Washington, D. C. Virginia Atlanta Birmingham New Orleans	Geo. A. Weschler, Washington, D. C.	S. W. Stratton, Washington, D. C.
4	Rochester Buffalo Toronto (Ont.) Cleveland Erie	E. H. Whitlock, Cleveland, Ohio	C. M. Spalding, Erie, Pa.
5	Milwaukee Chicago Indianapolis Cincinnati Detroit	Geo. W. Galbraith, Cincinnati, Ohio	H. M. Norris, Cincinnati, Ohio
6	St. Paul, Minneapolis (Minnesota Sec.) St. Louis Mid-Continent Colorado Houston	C. B. Lord, St. Louis	J. A. Hunter, Boulder, Colo.
7	Los Angeles San Francisco Oregon Washington State	Robert Sibley, San Francisco, Cal.	E. O. Eastwood Seattle, Wash.

Inter-Professional Conference

The Inter-Professional Conference announced in MECHANICAL ENGINEERING was held in Detroit November 28-29. Mr. Charles Whiting Baker, President of the Baker Economic Transport Corporation, was appointed by Engineering Council to be the official spokesman for the engineers and Mr. Calvin W. Rice was also present as a member of the Committee on Organization.

The proceedings of the two sessions consisted in talking over the probabilities and possibilities of an inter-professional organization and in laying out a plan of organization and a definite course of action for the future. See the Secretary's Letter for report.

THE NEW OFFICERS OF THE SOCIETY

ALL the members of the Society nominated by the Regular Nominating Committee for 1919 to fill the vacancies in the elective offices were elected at the Annual Meeting. The Committee was selected as heretofore by the President consulting the Local Sections and was made up as follows:

NOMINATING COMMITTEE	SECTIONS
Robert Sibley	San Francisco Los Angeles
J. V. Martenis	Minnesota Milwaukee Chicago St. Louis Indianapolis
Theodore H. Hinchman	Cincinnati Cleveland Detroit Ontario Buffalo Erie
H. J. Hinchey	Birmingham Atlanta New Orleans
Alexander G. Christie	Boston Connecticut Worcester New York

This is the last time that the Committee will be so appointed. In fact elsewhere in this issue is an account of the manner of electing the Nominating Committee for 1920 by the voting membership and the personnel of the Committee which is already elected by the Society.

A brief synopsis of the achievements and attainments of the new officers will be of interest:

FRED J. MILLER
President

FRED J. MILLER was born in Ohio in 1857. He had a common and high school education, supplemented by personal study and special instruction. He served an apprenticeship of four years in the machinist trade, and for a number of years worked in various capacities in machine shops.

He became a contributor to mechanical journals and finally a member of the editorial staff of a prominent machinery journal, where he remained for 20 years, the last 10 years of which he spent as editor-in-chief and vice-president of the publishing company. During this time he acquired an extensive acquaintance with machinery-building establishments in Europe, as well as in America.

After retiring from journalism, Mr. Miller was for nine years general manager of a group of typewriter factories. and was then commissioned Major of Ordnance in the U. S. Army, being stationed during most of his service at the Rock Island Arsenal, where he organized and was at the head of the Civilian Service Divison of the Arsenal. Afterward he was attached to the office of the Director of Arsenals in Washington, being assigned to duty at the Bethlehem Steel Works, and was then attached to the office of the Secretary of War. He is now a member of the Technical Advisory Committee of the War Claims Board at Washington.

Major Miller became a member of the Society in 1890, and has always taken an active interest in its affairs, having served on a number of important committees, and as a member of Council from 1904 to 1907, inclusive. He also served two terms as the Society's representative on the Board of the United Engineering Societies, where he was Chairman of three successive committees entrusted with the work of reorganizing and perfecting the Founder Societies' business affairs and finances. He was a member of the Council at the time *The Journal* of the Society was started, and has always been consulted on questions relating to its development, having recently devoted considerable time to the study of the Society's publishing problems and its office methods and organization.

JOHN ROBINS ALLEN
Vice-President

JOHN ROBINS ALLEN was born in Milwaukee, Wis., in 1869. He was graduated from the University of Michigan in 1892 with the degree of B.S., and received his M.E. degree in 1896. For one year he was connected with the Bay City Industrial Works and for two years with the L. K. Comstock Construction Co.

From 1896 to 1911 Mr. Allen was associated with the mechanical-engineering department of the University of Michigan, rising from an instructorship to a full professorship. The next year he was called to Robert College in Constantinople, Turkey, as dean of the engineering department. After a year's service he returned to the University of Michigan as head of the mechancal-engineering department, being so connected until 1917 when he became Dean of the College of Engineering and Architecture of the University of Minnesota. Early in the present year, Mr. Allen became director of the Research Bureau of the American Society of Heating and Ventilating Engineers, with headquarters at the U. S. Bureau of Mines, Pittsburgh.

Besides being a member of our Society since 1894, Mr. Allen is a past-president of the American Society of Heating and Ventilating Engineers, past-president of the Michigan Engineering Society, and a member of the British Institution of Heating and Ventilating Engineers, of the Society for the Promotion of Engineering Education and an honorary member of the National District Heating Association. He also belongs to the honorary societies of Sigma Xi and Tau Beta Pi.

ROBERT H. FERNALD
Vice-President

ROBERT HAYWOOD FERNALD was born in Orono, Me., in 1871. He received the degree of B.M.E., Maine State College, in 1892, and spent the next year at Massachusetts Institute of Technology. He later received degrees of A.M. and Ph.D. from Columbia University and the degree of M.E. from Case School of Applied Science, Cleveland, Ohio, where he was instructor and assistant professor from 1893 to 1901, and professor of mechanical engineering from 1907 to 1912, after having held the same position at Washington University, St. Louis, Mo., from 1902 to 1907. Since 1912 he has been professor of dynamical engineering at the University of Pennsylvania, Philadelphia, Pa.

Professor Fernald has conducted investigations for the U. S. Geological Survey and the Bureau of Mines. He was engineer in charge of Technologic Branch, U. S. Geological Survey, from 1904 to 1910 and has been consulting engineer of the Fuel Division of the Bureau of Mines, since 1910.

In addition to preparing exhaustive reports for these two government departments, Professor Fernald, with Geo. A. Orrok, was author of "Engineering of Power Plants." He has also contributed a number of papers on engineering topics to technical journals.

Professor Fernald has been a member of the Society since 1903. He was chairman of the Gas Power Section in 1911; chairman of the Philadelphia Local Section, 1915-16; he has been a member of several committees, and was chairman of the Meetings and Programs Committee, 1917; he was a manager of the Society from 1916-19; he is a member of the Society for the Promotion of Engineering Education; Engineers' Club of Philadelphia, University Club of Philadelphia, and several other clubs. He was president of the Cleveland Engineering Society in 1912.

EDWARD C. JONES
Vice-President

EDWARD C. JONES was born in South Boston, Mass., in 1861, and was educated in the Boston public schools. He entered the gas business in 1876 at the South Boston Gas Works. In 1889 he became superintendent of the Boston Gas Light Co., in charge of the North End Station and in 1890 was appointed assistant engineer in charge of manufacture.

In 1891 the San Francisco Gas Light Co. employed Mr. Jones as assistant engineer to construct the North Beach Gas Works, and when the Edison Light & Power Co. merged with the San Francisco Co., Mr. Jones became engineer of both the gas and electric departments. In 1902 he accepted the position of chief engineer of the California Central Gas & Electric Co., and upon the absorption of that company by the California Gas & Electric Corporation, he became chief engineer of all its plants. In 1906, he again returned to the San Francisco Gas & Electric Co. as chief engineer at the time of the purchase of that concern by the Pacific Gas & Electric Co., of which he is now chief engineer.

Mr. Jones has invented many valuable improvements in gas manufacture and distribution, particularly in the field of purification and in the development of the oil-gas process.

Mr. Jones is a member of the American Gas Light Association, a past-president of the Pacific Coast Gas Association, past-president of the American Gas Institute, and an honorary member of the New England Association of Gas Engineers. He has recently been appointed advisory engineer to the Bureau of Standards and is actively engaged in research work for the betterment of the gas industry.

He was chairman of the San Francisco Section of the A.S.M.E. for the year 1918-1919. He became a member of this Society in 1901.

ELBERT C. FISHER
Manager

ELBERT C. FISHER was born in Scranton, Pa., in 1865. He prepared for college in the School of Lackawanna in Scranton, and graduated from Cornell University with the degree of M.E., in 1890.

He worked one year in the locomotive-repair shop of the Delaware-Lackawanna & Western Railroad, in Scranton, Pa.; one year for the

Westinghouse, Church, Kerr & Co., in Chicago, Ill., and four years for the Murphy Iron Works, as manager of the Chicago Office. He became associated with Wickes Brothers in 1895, and was made vice-president and general manager of The Wickes Boiler Co., in 1908, a position which he still holds.

Mr. Fisher joined the Society as a junior member in 1891, and was made a full member in 1913. In 1914 he was appointed on the A.S.M.E. Boiler Code Committee. He was chairman of the Detroit Local Section 1918-19.

He is a member of the American Boiler Manufacturers' Association and is on its executive committee, and is also a member of the Board of Boiler Rules of the state of Michigan.

DEXTER S. KIMBALL
Manager

DEXTER S. KIMBALL was born in New River, New Brunswick, Canada, in 1865. He was graduated from Leland Stanford, Jr., University in 1896 with the degree of A.B., and received his M.E. degree in 1913.

He served his apprenticeship with Pope & Talbot, Port Gamble, Wash., and in the shops of the Union Iron Works, San Francisco. In 1898 he became designing engineer for the Anaconda Mining Co. For three years he served as assistant professor of machine design at Sibley College, Cornell University, when he became works manager of the Stanley Electric Manufacturing Co., Pittsfield, Mass. In 1904 he returned to Cornell University as professor of machine design and construction, and since 1915 has occupied the chair of industrial engineering.

In 1911 Professor Kimball was a member of the Council on Industrial Education, New York State Department of Education. He is also a member of the Society for the Promotion of Engineering Education and of the honorary societies Sigma Xi and Tau Beta Pi.

He is co-author with John H. Barr of Elements of Machine Design and author of Industrial Education, Principles of Industrial Organization and Elements of Cost Finding.

Professor Kimball became a member of the Society in 1900. He is now the chairman of the Committee on Meetings and Program of the Society, having charge of the professional features of the Annual and Spring Meetings. He is also a member of the Committee on Aims and Organization and chairman of the sub-committee on Relation of the Engineer to his Work.

EARL F. SCOTT
Manager

EARL F. SCOTT was born in Marshall, Tex., in 1874. He was graduated from Vanderbilt University in 1903 with the degree of B.S., and three years later received his degree of M.E. During the latter part of this period he served as an instructor in mechanical engineering. For several years thereafter he was occupied in drafting and mechanical designing.

From 1905 to 1908 Mr. Scott was associated with A. M. Lockett & Co., New Orleans, La., contracting mechanical engineers. During these years he had charge of the engineering department, designing and supervising the construction of a number of large irrigation plants. He also designed and completely installed several large power and steam-heating plants.

The next five years Mr. Scott spent with the General Fire Extinguisher Co., in charge of the engineering department of the Atlanta plant. Here his work dealt with fire-protection apparatus, automatic-sprinkler equipment, high-pressure steam-pipe work for power plants, etc. For one year he served as assistant manager of the Atlanta office of the Griscom-Russell Co.

Since 1914 Mr. Scott has been president and manager of Earl F. Scott & Co., Inc., and has designed and supervised the installing of condensers, spray equipment and power plants for many of the largest cotton mills in the country. The equipment of the heating plant at the Base Hospital at Camp Jackson, Columbia, S. C., is his work and consists of twelve 7500-sq. ft. rad. low-pressure boilers, including building foundation, stack and breeching, etc.

Mr. Scott was elected a junior member of the Society in 1904 and was promoted to full membership in 1906. From 1914 to 1916 he was chairman of the Atlanta Local Section. He is a member of the Committee on Aims and Organization.

WILLIAM H. WILEY
Treasurer

WILLIAM H. WILEY was born in New York City in 1842, and received his A.B. degree from the College of the City of New York in 1861, and the degree of C.E. from Rensselaer Polytechnic Institute in 1866. He also studied as a special student at the Columbia School of Mines in 1868.

At the outbreak of the Civil War he joined the Seventh Regiment of New York Volunteers, and in 1862 was made first lieutenant, U. S. Volunteers. When the regiment was mustered out in 1864 he was given the title of Major, U.S.V., for service in the field.

Since 1878 Major Wiley has been a publisher of scientific works. He served as a member of the 58th, 59th and 61st Congresses from New Jersey. In 1897 he was president of an International Jury of the Brussels Exposition, and was a member of the Superior Jury, Brussels. He received the decoration of the Order of Leopold. He was a commissioner from New Jersey to the St. Louis Exposition in 1904.

Major Wiley is the author of a book on Yosemite, Alaska, and Yellowstone, published in 1888, and acted as New York correspondent for London *Engineering* for 20 years. He is a member of the American Society of Civil Engineers, the American Institute of Electrical Engineers, the American Institute of Mining Engineers, the American Association for the Advancement of Science, the National Geographic Society, the Order of Leopold, Belgium and the Loyal Legion.

Major Wiley has been a member of the Society since its organization. He was appointed on the Finance Committee in 1882. While serving as chairman of this committee he was elected Treasurer of the Society in 1884, and has been regularly nominated and elected for the period of thirty-five years which have since elapsed.

PERSONALS

In these columns are inserted items concerning members of the Society and their professional activities. Members are always interested in the doings of their fellow-members, and the Society welcomes notes from members and concerning members for insertion in this section. All communications of personal notes should be addressed to the Secretary, and items should be received by January 15 in order to appear in the February issue.

CHANGES OF POSITION

WILLIAM TIETZE has resigned from his position as chief engineer of the Cudahy Brothers Company, of Cudahy, Wis., to assume the position of manager of the Citizens Light, Heat and Power Company, of Canby, Minn.

R. W. HARGRAVE, formerly production engineer, The Regina Company, Rahway, N. J., has become associated with the DeLaval Separator Company, Poughkeepsie, N. Y., in charge of tool production.

HERBERT R. CONNOR, until recently connected with the Meese and Gottfried Company, San Francisco, Cal., as mechanical engineer, has entered the employ of The Phillips Rice Milling Company, of the same city.

GEORGE S. BRADY, formerly process and equipment engineer, Winchester Repeating Arms Company, New Haven, Conn., is now with the Department of Commerce as United States Trade Commissioner to Argentine.

RALPH C. CHESNUTT has become affiliated with the engineering department of the Bethlehem Motors Corporation, Allentown, Pa. He was formerly assistant chief engineer, North American Motors Company, Pottstown, Pa.

FREDERICK J. BRENGEL, formerly connected with the Bailey Meter Company, Cleveland, Ohio, in the capacity of works manager, has assumed the position of manager of the Boston Tool and Manufacturing Company, of Boston, Mass.

JAMES T. ENES has become associated with the Otis Steel Company, Riverside plant, Cleveland, Ohio. He was, until recently, designer with Perin and Marshall, New York.

R. C. HOLMAN, formerly with the General Electric Company, centrifugal department, is now associated with the Hooven, Owens, Rentschler Company, in charge of all blowing engines.

WALTER E. FARNHAM, formerly instructor in general engineering drawing, University of Illinois, Urbana, Ill., has assumed the position of assistant professor of technical drawing, Tufts College.

JAMES L. HAYNES has become affiliated with the Federal Shipbuilding Company, Newark, N. J. He was until recently connected with the Groton Iron Works, Groton, Conn.

E. S. COOLEY, formerly with the Fall River Shipbuilding Company, is now connected with the New York office of the Hooven, Owens, Rentschler Company.

RICHARD FITZ-GERALD, formerly production engineer with The National Conduit and Cable Company, Hastings-on-Hudson, N. Y., has become associated with Lybrand Ross Brothers and Montgomery, New York.

GEORGE E. HARRIS has resigned his position as director of sales, Hawkridge Brothers Company, Boston, Mass., to become associated with The Falcon Steel Company, Niles, Ohio, in the capacity of general manager of sales.

JOSEPH G. WORKER has assumed the duties of general manager of the Phœnix Manufacturing Company, Eau Claire, Wis., having general supervision of sales, engineering and production. He was formerly connected with the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., as manager of the stoker division.

GEORGE B. MALONE has resigned his position as works manager for the Monel Metal Products Corporation to accept the position of general manager of the K-G Welding and Cutting Company, New York.

EMANUEL R. POSNACK has become associated with A. Hermansen, industrial furnace engineers, New York. He was formerly engineer-draftsman with Adams, Lovell, Burlinghom, Inc., New York.

ALFRED C. BROWN, until recently general manager of the Marlin Rockwell Corporation, Tacony, Philadelphia division, is now associated with the Liberty Motor Car Company, of Detroit, Mich.

G. G. SPENCER, formerly associated with the Toronto Power Company, Ltd., Toronto, Ont., Canada, has become affiliated with the American Sugar Refining Company, of New York.

ANNOUNCEMENTS

ALFRED V. BODINE has become connected with the Columbia Graphophone Manufacturing Company, Bridgeport, Conn., in the capacity of mechanical engineer.

J. L. STONE has accepted a position in the chassis parts department of the Muncie Products Company, Muncie, Ind.

CAPTAIN HOWARD D. MACDONALD, 33d Division, A.E.F., has returned from France and has been honorably discharged from the Army after 2½ years of service. He has rejoined the engineering staff of the International Harvester Company on the development of gas-power engineering, with headquarters in Chicago, Ill.

JOHN CENTRULE has become affiliated with the firm of J. H. Wilhelm, Inc., consulting engineers of New York, as chief inspection engineer.

The firm of Frank P. Peterson and Company was transferred to DEAN E. FOSTER and FORREST E. GILMORE, two of Mr. Peterson's associates, who continued under the old name until recently, when it was changed to Foster and Gilmore, consulting engineers. Mr. Foster, the senior member of the new firm, was formerly professor of mechanical engineering, State College of Washington, Pullman, Wash., and later became connected with Cosden and Company, as research engineer and technical advisor, which position he resigned to enter partnership with Mr. Peterson. Mr. Gilmore was a member of the engineering force that designed and built the Cosden Refinery at West Tulsa, Okla. Later he became associated with Frank P. Peterson and Company, and during the war served in the Air Service Division of Military Aeronautics.

CHARLES C. LYNDE, Captain Corps of Engineers, was honorably discharged from the U. S. Army on October 4, 1919, after 21 months' service overseas, and has taken up duties as engineering editor for the Trade Press Publishing Company, with offices in Cleveland, Ohio.

APPOINTMENTS

THOMAS E. STUART has been appointed mechanical engineer for the U. S. Food Products Corporation, with headquarters at Peoria, Ill.

GEORGE P. SONN has been appointed chief engineer for the National Conduit and Cable Company, and National Brass and Copper Tube Company.

NECROLOGY

STEPHEN P. BROWN

Stephen P. Brown, who, until June 1919, was vice-president and general manager of Ford, Bacon & Davis, Engineers, New York, met his death on Saturday, December 6, 1919, by drowning at Sebec Lake, Dover, Me., when he broke through the ice on which he and his nine-year old son were crossing to a landing. His delay in seeing his son to safety cost him his own life.

Mr. Brown was born in Dover, Me., on April 29, 1877. He was educated in the town schools, Foxcroft Academy, Hotchkiss School and the Massachusetts Institute of Technology from which he was graduated in 1900. In that year he began his career as junior partner in the firm of Collier & Brown, consulting engineers, Atlanta, Ga. He remained with the firm until 1904 when he was made inspector of the Bridgeport Station Works of the N. Y., N. H. & H. R. R. From 1905 to 1909 he was with the United Engineering & Contracting Co. holding in succession positions of increasing importance, finally as general superintendent of all work west of Fifth Avenue on the Pennsylvania Railroad cross-town tunnels under New York. For the next three years he was chief engineer of the Tidewater Building Co., building a section of the Fourth Avenue Rapid Transit four-track subway in Brooklyn, N. Y.

From 1912 to 1917 Mr. Brown was chief engineer of the Mount Royal Tunnel & Terminal Co., Ltd., and managing engineer for Mackenzie, Mann & Co., Ltd., having charge of both design and construction of the terminal development in Montreal for the Canadian Northern Railway. From 1918 to June 1919, Mr. Brown was vice-president and general manager of Ford, Bacon & Davis, Engineers, New York City. He left in June to take a long vacation in the Maine woods, where he met his tragic end.

Mr. Brown was a member of the American Society of Civil Engineers, the American Railway Engineering Association, the Engineering Institution of Canada, the Institution of Civil Engineers (British), and of the Engineers' and the University Club of New York. He became a member of the Society in 1909.

CLIFFORD LEE

Clifford Lee was born in Forrest Grove, Oregon, on October 23, 1886. He was educated in the common schools of Washington and of Oregon and in 1911 was graduated from Purdue University as a mechanical engineer. Upon graduation he became connected with the Willamette Iron and Steel Co. Works, Portland, Ore., where he served a "technical apprenticeship" course in the boiler and structural shop, later being advanced to the engineering force where his work dealt with design and estimating. His next position was with the United States Rubber Corporation, first as development engineer on the installation and erection of vulcanizing apparatus and then as mechanical engineer in charge of construction and maintenance at the India Rubber Co., New Brunswick, N. J., the hard-rubber plant for the corporation. In August, 1918, Mr. Lee resigned from this position to become mechanical engineer at the Government explosive plant in Nitro, West. Va. At the close of the War he returned again to take up his position at the India Rubber Co. but was compelled very shortly to give up his work on account of ill health. He died in Portland, Ore., on May 24, 1919.

Mr. Lee became a member of the Society in 1916.

CHARLES EKSTRAND

Charles Ekstrand, constructing and consulting engineer with the Warner Sugar Refining and the Warner Quinlan Asphalt companies, New York, died on September 28, 1919. Mr. Ekstrand was born on August 19, 1863, in Kalmar, Sweden, and received his early education in Swedish schools. He served an apprenticeship as marine engineer and later obtained his license as chief engineer on ocean-going steamers. He was formerly connected with the Brooklyn Cooperage Co. and Palmer Docks, Brooklyn, as chief engineer and with the Lowell M. Palmer Plants, York, Pa., as superintendent.

During the War Mr. Ekstrand served as lieutenant in the U. S. N. R. F. He was an associate member of the American Institute of Electrical Engineers. He became a member of our Society in 1898.

GEORGE SCHUHMANN

George Schuhmann, vice-president and general manager of the Reading Iron Co., Reading Pa., died on November 12, 1919. Mr. Schuhmann was born on October 18, 1855, in Weinheim, Baden, Germany and was educated in the industrial and high schools of that city.

Mr. Schuhmann came to this country in 1874 and was associated for varying periods with the Philadelphia Hydraulic Works, the Gregg Brick Machine Co., and the Reading Iron Works. From 1891 to 1919 he held successively the positions of assistant, department and general superintendent, general manager and vice-president of the Reading Iron Co.

He was a recognized authority on wrought iron and the manufacture of welded pipe and was the author of a number of technical treatises on these subjects. He was a member of the American Society for Testing Materials. He became a member of our Society in 1884.

FRANCIS L. HAND

Francis L. Hand was born at Dennisville, Cape May County, N. J., on February 18, 1838. He was educated in the public schools of Philadelphia. In 1854 he began his "steamboating" career on the *Delaware* and four years later obtained his first engineer's license. Later he was employed as assistant engineer on the *Kennebec* and during the Civil War he was on the steamer *Union*, taking part in the Dupont-Sherman Expedition. In 1865 Mr. Hand became chief engineer of the *Star of the Union* and afterwards held the positions of chief engineer in the Southern Mail Steamship Co. of Philadelphia and U. S. inspector of steam vessels. In 1886 he became general superintendent of the Philadelphia Water Department, holding that position until 1900 when he was appointed chief engineer of the Water Bureau.

In 1906 Mr. Hand retired from active life. He died on September 11, 1919 in his eighty-second year. He was a member of the Engineers' Club of Philadelphia and of the American Water Works Association. He became a member of the Society in 1888.

EMPLOYMENT BULLETIN

THE SECRETARY considers it a special obligation and pleasant duty to make the office of the Society the medium for assisting members to secure positions by putting them in touch with special opportunities for which their training and experience qualify them, and for helping any one desiring engineering services. The applications and positions listed below combine the services of the Society and of the Engineering Societies Employment Bureau, Engineering Societies Building.

POSITIONS AVAILABLE

Stamps should be inclosed for transmittal of applications to advertisers; non-members must accompany applications with a letter of reference or introduction from a member; such reference letter will be filed with the Society records.

INSTRUCTORS: All engineers willing to consider teaching positions are invited to register with Engineering Societies Employment Bureau. The Bureau has been called upon to fill more positions, varying in grade from laboratory assistant to heads of department in various engineering and technical schools of this country, than it has been able to do from among the men now registered. Blanks for purpose of registration and information regarding the Bureau may be had by addressing W. V. Brown, Manager, 29 West 39th Street.

AUTOMATIC MACHINE DESIGNER; familiarity with machinery for plant manufacturing wood and machine screws, machine-screw nuts, rivets and burrs, cap and set screws, etc. Location Massachusetts. R-2101.

ASSISTANT INDUSTRIAL ENGINEER with machine shop training to do routing of shop orders and some drafting; must be young man. Location Massachusetts. R-2102.

RECENT GRADUATE or man with one to three years' experience, for general testing work in laboratory of large manufacturing company. Salary $100 up, depending upon experience. Several openings. Location Pennsylvania. R-2103.

INSTRUCTOR IN MECHANICAL ENGINEERING; previous teaching experience desirable. Duties will include recitation and laboratory work in steam, gas engines and steam boilers and assisting in more advanced course. State age, education, and experience, also enclose recent photograph if possible. Location Michigan. Salary $2,000 per year to start. R-2105.

DESIGING DRAFTSMAN, must be experienced in steel plant and rolling mill work. Location Ohio. Salary $225 per month. R-2107.

PRODUCTION MANAGER; young technical graduate, preferably married, ambitious and not afraid to work for advancement, to take charge of production department for manufacture of machine-tool and automobile parts. Location Middle West. R-2111.

MECHANICAL DRAFTSMAN, experienced in and familiar with location and installation of machinery. Location New Jersey. Salary $1,800-$2,400, depending on ability. R-2112.

INSTRUCTOR AND WRITER; capable of handling correspondence course. Openings in all branches of engineering, as civil, mechanical, electrical, mining, chemical, architecture, etc. Whole or part time work. Location New York City. R-2114.

OFFICE MANAGER, must have thorough knowledge of heavy hardware and machinery, such as agricultural implements; steel and iron structural goods, like bars, sheets, pipe, angles, channels, rails; valves, knuckles, joints, etc.; pumps, pulleys, hoists, etc. Should have smattering of Spanish but knowledge of above lines is preferable; should be hustler of good character, good mixer and not afraid to work. Salary is fair to start with. Will have charge of office in his department and when he shows his worth, will receive raise and percentage on business. Location Cuba. R-2117.

RECENT CIVIL ENGINEERING GRADUATE of recognized college; duties will be to learn to be an estimator. Location Washington, D. C. Salary about $1,200 per year. R-2120.

TOOL DESIGNERS experienced in designing medium and light tools, as gages and fixtures; for general contract work. Openings for five men. Location Newark, N. J. Salary $40. R-2122.

YOUNG MECHANICAL ENGINEERS, recent grauates, with two or three years' experience. Positions are with large industrial corporation. Location New Jersey. R-2126.

ARCHITECTURAL DRAFTSMAN familiar with industrial building work, to make preliminary drawings layout of machinery, estimates, working drawings of buildings, etc. Location Waterbury, Conn. Salary $50. R-2133.

REINFORCED-CONCRETE DESIGNERS, experienced in reinforced-concrete building construction. Several openings. Location Pennsylvania. R-2135.

DRAFTSMAN for large gas-furnace work; two or three years' industrial experience required. Location Ctntral New York. R-2137.

DRAFTSMAN AND DESIGNER, experienced on printing-press work. Position will lead to that of chief draftsman in near future. Location Syracuse, New York. Salary $40-60. R-2139.

STRUCTURAL ENGINEER; must have experience both in design and construction of steel structures. Advertiser is seeking an associate. Location Omaha, Nebraska. R-2140.

ESTIMATOR AND DESIGNER experienced in structural-steel work for buildings and bridges. Salary $150-200. Location Beaver Falls, Pa. R-2145.

DETAIL DRAFTSMAN, must have structural-steel experience. Location Beaver Falls, Pa. R-2146.

EFFICIENCY ENGINEER, experienced in time study and rate setting. Location Cleveland, Ohio. R-2150.

DESIGNERS AND DETAILERS, experienced in general elevating and conveying machinery; also must be familiar with construction of coal tipples and coal-handling equipment for by-product coke-oven installation. R-2156.

DESIGNER AND DETAILER FOR ELECTRIC-TRAVELING CRANES, with several years' experience and familiar with both mechanical and structural features. Opportunity for capable man to develop rapidly to chief draftsman. Location Pennsylvania. R-2161A.

CHECKER FOR STRUCTURAL STEEL, with several years' experience and familiar with both mechanical and structural features. Location Pennsylvania. R-2161B.

ASSISTANT PROFESSOR IN MACHINE DESIGN; must be technical graduate with both field and teaching experience. Location Wisconsin. Salary, 10 months, to begin $2,400. R-2162.

MECHANICAL ENGINEER, must be technical-school graduate with manufacturing experience. Excellent opening for first-class man with industrial establishment. Location Chicago, Ill. R-2164.

MECHANICAL ENGINEER ON INDUSTRIAL WORK; young man for foundry-plant construction and maintenance of buildings and equipment. Prefer technically-educated man with two or three years' experience along this line. Location Wilmington, Del. R-2165.

TOOL-ROOM FOREMAN; experience on gasoline-engine production tools preferred. Location Western Michigan. R-2166.

TOOL DESIGNER; experience on gasoline-engine production tools preferred. Location Western Michigan. R-2167.

ASSOCIATE IN EXPORT WORK; must be either electrical or mechanical engineering graduate, with considerable experience in power-plant and electrical lines. Would be given an opportunity to take a $20,000 interest in corporation and would be given charge of one of the offices in China. R-2171.

RESEARCH ENGINEER of keenly analytical type, resourceful, painstaking, thorough and possessing good judgment. Should have several years' experience in working out manufacturing problems; more particularly those having to do with standardization of materials and processes. Need not be graduate engineer, although good working knowledge of machinery is essential. Location Rochester, New York. Salary $2500-$3500 per year, depending on man. R-2173.

CHIEF DRAFTSMAN, technical education, and three or four years' shop or drafting-room experience on engine and boiler work. Location Cincinnati, Ohio. R-2174.

LOCOMOTIVE DESIGNER AND DETAILER; thoroughly experienced in this line of work. Location Pittsburgh, Pa. R-2176.

INSTRUCTOR IN MACHINE SHOP; need not have college training, although educational qualifications will be of importance. Location West Virginia. Salary $1500-$1700, depending on man. R-2177.

INSTRUCTOR IN MOLDING AND FOUNDRY WORK; college training not required, but educational qualifications of importance. Opening February, 1920. Location West Virginia. Salary $1500-$1700, depending on man. R-2178.

MECHANICAL DRAFTSMAN with automobile experience for position with company building caterpillar tractors. Location Hoboken, N. J. Good salary. R-2180.

INSTRUCTOR IN ENGINEERING MECHANICS, must have technical education. Department is being reorganized; good opportunity for right man. Must report by February 1, 1920. Location Connecticut. Salary $1500-$1800 per year. R-2181.

RESIDENT ENGINEER, extensive experience on highway location and construction. Should have speaking knowledge of Spanish. Single man preferred. Openings for four men. Location Santo Domingo. Salary $250 per month. R-2182.

ASSISTANT ENGINEER, should be able to rerun alignment for highway construction, cross-section, plot and figure cross-sections, lay out culverts and perform all work that assistant engineer is usually required to do in this class of work. Single man preferred. Speaking knowledge of Spanish desired, but not necessary. Five openings. Location Santo Domingo. Salary $175 per month. R-2183.

BUILDING SUPERINTENDENT, experience with wood and concrete structures. Must be able to speak Spanish. Location Santo Domingo. Salary $225 per month. R-2184.

TRACTOR DESIGNERS; must be technical men; three openings. Location Massachusetts. R-2185.

DRAFTSMAN with experience in mechanical layout and mechanical construction work. Two openings. Applications from men who are desirous of locating in vicinity of Buffalo, N. Y., wanted. Location Buffalo, New York. R-2187.

ENGINEERING ACCOUNTANT capable of handling complete report work and distribution of labor and materials reports. Should have some practical knowledge of railroad work, both in field and office, and good understanding of interstate commerce construction accounts. Two openings. Location Middle West. Salary $175. R-2188.

INSTRUCTOR IN REINFORCED CONCRETE: about ten years' experience in reinforced-concrete work of all kinds. Location Middle West. R-2190.

CONSULTING ENGINEER with experience on flour mills and corn products for work in South Africa, which might involve a trip to South Africa to supervise installation. The work consists of selecting and specifying complete machinery equipment along the most modern lines for a new plant, as well as the design and lay-out of the plant itself. Location South Africa. R-2192.

ENGINEER familiar with handling of pulverized fuel. Location New York City. R-2195.

DRAFTSMEN; four or five years' experience in general engineering work. Technical graduates desired. Several openings. Two architectural draftsmen, two structural draftsmen, three mechanical draftsmen. Location Cleveland, Ohio. Salary $175 per month up. R-2201.

SALES ENGINEER mechanically inclined, recent M. E. graduate; experience in salesmanship preferred. Several openings. Location New York City. Salary, drawing account and commission. R-2204.

ASSISTANT MECHANICAL ENGINEER; ability to handle repair and upkeep work and shop instructions; capable of supervising plant, repairs, renewals and of creating and executing new designs and equipment. Prefer recent graduate, willing to work his way up in organizations. Location Tuckahoe, N. Y. Salary $115 per month. R-2206.

ENGINEER EXECUTIVE to take charge of design, construction and installation of all machinery for four wireless stations of not more than 240 miles range. Location vicinity of New York. R-2207.

MECHANICAL DRAFTSMEN: men who are capable of taking job, putting it into shop and are certain that it is right; men who need very little checking or supervision. Employment would be chiefly on Corliss-engine work with opportunity to work on other products if proficient. This company builds a variety of heavy machinery, but its chief products are all kinds of steam engines and sugar mills. Location Hamilton, Ohio. R-2209.

ASSISTANT PROFESSOR OF ELECTRICAL ENGINEERING; several years of teaching experience. Duties will consist of class-room and laboratory work, chiefly in electrical engineering, and including some work in physics. Location Baltimore District. Salary $2400 a year. R-2210.

INSTRUCTOR IN STEAM- AND GAS-ENGINEERING LABORATORY; previous teaching experience desirable but not absolutely necessary. Duties to begin February 16, 1920. Location Middle West. Salary $1500 (about). R-2212.

STOREROOM EXECUTIVE capable of planning, directing and supervising all activities pertaining to automobile-stores management in operating organization and also in automobile factory. Location Chicago, Ill. R-2213.

REFRIGERATING ENGINEER with both theoretical and practical experience in ice-making and refrigerating machinery. Must be qualified to handle inquiries, estimate all engineering requirements pertaining thereto, prepare complete specifications and contract forms ready for purchaser with guarantees attached. Several openings in estimating and sales-engineering departments. Location Wisconsin. R-2217.

RECENT GRADUATES; several openings for experimental, designing and drafting work along lines of kerosene, heavy-fuel and semi-diesel engines, reciprocating and centrifugal pumps. Location Wisconsin. R-2220.

ESTIMATOR AND DRAFTSMAN for position with company manufacturing boilers. Good future. Location New York City. Salary $35-$40 per week. R-2223.

YOUNG GRADUATE ENGINEER with experience in combustion engineering and heavy and diesel-oil engines. Three openings. Successful candidates will receive a six-months course of training in preparation for foreign assignment. Salary $2000-$2400. R-2228.

TOOL DESIGNER with experience on small tools. Location Brooklyn, N. Y. Salary $40-$50 per week. R-2232.

POWER SALESMAN; graduate electrical engineer with at least four years' experience in general electrical work. Permanent position. Good future. Location Easton, Pa. Salary $175-$200 per month. R-2233.

MACHINE-TOOL ENGINEER with experience in sales methods and office organization; must have executive ability. Position is in Toronto, Canada, with the U. S. Govt. for temporary period of not less than four months and not more than eight months. Salary $3000 per annum. R-2234.

TECHNICAL TRANSLATOR, must understand either French, Spanish or Portugese. Position is in editorial department of large publishing house. Several openings. Location New York City. R-2235.

MECHANICAL DRAFTSMAN; experience in mill designing for mining operations. Several openings. Location Fresnillo, Mexico. R-2238.

ELECTRICAL DRAFTSMAN for work on electrical design of generating and sub-stations. Experience in this work desirable but not absolutely essential. Several openings. Location Chicago, Ill. Salary $110-$140 per month. R-2239.

PRODUCTION ENGINEER; technical man, preferable about 30, for job-analysis and general production work in brass mill. Location Bridgeport, Conn. R-2241.

FOREMAN FOR WHITE-METAL PLANT; will be required to do own alloying and look after plant in general. Location Cleveland, Ohio. R-2242.

MECHANICAL DRAFTSMAN with valve and pipe-fitting experience, should be thoroughly experienced in design of automatic and semi-automatic machinery, and capable of designing jigs, tools and fixtures for small work. Position is under personal supervision of plant superintendent, and shop hours are necessarily kept. Some general engineering experience desirable. Location, Pennsylvania. R-2246.

CHIEF DRAFTSMAN with thorough and varied experience in design and application of conveyors, more especially the pivoted-bucket type. Applicant must be capable and qualified to enable him to take over company's conveyor department as far as engineering end is concerned; must be qualified to take present design with view to effecting economy in production, and be thoroughly conversant with application of this type of conveying equipment to requirements of power stations, industrial companies, etc. Location East Boston, Mass. R-2247.

INSTRUCTOR IN CIVIL ENGINEERING, must be technical graduate especially interested in hydraulic-laboratory work, as well as hydraulics, and in sanitary engineering. Location Maryland. R-2252.

TOOL DRAFTSMAN thoroughly experienced and A-1 in every respect. Location Flushing, L. I., N. Y. Salary depends upon man. R-2254.

DRAFTSMAN with experience on press tools, forming dies and automatic-press speeds, or on screw-machine tools, automatic-screw machines and special automatic machines. Two openings. Location Flushing, L. I., N. Y. Salary depends upon man. R-2256.

MECHANICAL DRAFTSMAN familiar with shipyard work. Location Hoboken, N. J. R-2257.

SAFETY ENGINEER; must be tactful, diplomatic and have ability to confer with executives and government officials. Mechanical engineering graduate with three or more years' experience in manufacturing plant. Government position. Salary up to $2700 per year. Location Washington, D. C. R-2314.

ENGINEER with broad experience in various industries for editing technical publications. Location South New England. R-2315.

ENGINEERING DRAFTSMAN on concrete and steel, with about five years' experience; must have designing ability. Location New York City. R-2318.

MECHANICAL ENGINEER 28 to 35 years of age for plant design and layout in oil refinery. Duty includes study of requirements and devising improvements. Must possess energy and ability to analyze and solve problems without constant supervision. Salary $200 to $250 per month. Location Virginia. R-2319.

TOOL DESIGNERS for jig and fixture work. Location New Brunswick, New Jersey. R-2320.

TOOL DESIGNERS with six to eight years' experience. Ten openings with automobile manufacturing company. Salary $200 per month. Location Michigan. R-2321.

OFFICE MANAGER for manufacturing company making pneumatic tools, air hammers, drill grinders, pneumatic drills and grinders, compressors and oil engines. Must be graduate engineer. Man under 30 preferred. R-2322.

DESIGNER AND ESTIMATOR for heating and ventilating work. Salary $35-$40 per week. Location New York City. R-2323.

MECHANICAL DRAFTSMAN wanted by well established company, manufacturing complete line of d.c. and a.c. generators and motors. Good opportunity for experienced man capable of working into position of assistant chief draftsman. Location Western Pennsylvania. R-2332.

BUNKER MARKETING MAN familiar with North and South Atlantic traffic. Practical knowledge of freight and operation desirable. Man familiar not only with shipping operations into which ports of the United States enter but also those into which only the foreign ports enter, preferred. Location New York City. R-2333.

MACHINE DESIGNER able to develop machines under instruction; experience in printing presses desirable but not necessary. Salary $40 per week. Location Connecticut. R-2334.

DEVELOPMENT ENGINEER, whose experience has been on design of complicated automatic machinery. Yankee preferred. Prolific imagination and practical productivity more important than college education. Describe in detail exact character of work done and give list of patents if any. Salary $3000 to start, future dependent on achievement. Tool designers, plant-efficiency or production engineers not wanted for this position. R-2338.

DRAFTSMAN competent to assist in design of copper-smelting and concentrating equipment. Location New York City. R-2339.

DETAIL DRAFTSMAN with experience on machine tools and automatic-machine work. Several openings in positions offering advancement to right man. Location Bridgeport, Conn. R-2341.

ASSISTANT CRANE ENGINEER who has had experience with crane manufacturers. Location Erie, Pa. R-2344.

STRUCTURAL DETAILER able to check steel details in factory and office buildings. Location Erie, Pa. R-2345.

SALES ENGINEER to handle line of boilers, engines, power-plant machinery and electric traveling cranes and hoists in New York City territory. R-2346.

SALES ENGINEERS: mechanical or chemical engineering graduates with some sales experience if possible; with military service during the past war, and willingness to start at moderate salary; good prospects for advancement. Initial salary will be about $1800 per year. Headquarters Ohio. R-2347.

DESIGNER; mechanical engineer with experience in steam power station work. Man about 30 years old desired. Salary $250 per month. Location New York City. R-2353.

STRUCTURAL AND MECHANICAL DRAFTSMAN; must be able to make good drawings of layouts for conveying and elevating machinery and of structural work. Location Jersey City, N. J. R-2354.

HIGH-GRADE ENGINEERING SALESMAN to devote time to sales of concrete machinery in district of Manhattan. R-2357A.

RECENT GRADUATES in mechanical and electrical engineering for education in sales work. One opening for each type of man. Location New York City. R-2357B.

DESIGNERS AND DRAFTSMEN experienced in general plant layout work for position with U. S. Government. Location Washington, D. C. R-2358.

ELECTRICAL DRAFTSMAN, must have experience on power house, sub-station and plant layout work. Salary depends on man. Location Connecticut. R-2359.

DESIGNING ENGINEER AND DRAFTSMEN for development work on automatic and special machinery. Location Newark, New Jersey. Seven men wanted. R-2361.

RESEARCH ENGINEER, to be assistant to chief engineer and to take charge of research laboratory. Ideal man would be one who has done some work as assistant professor in college and has followed this up with some practical commercial experience where he would get opportunity to act as executive in handling men. Work requires knowledge and experience in thermodynamics. Salary $300 per month to a man who can fill above requirements; every possibility for a promising future. Application must be made through commercial employment agency. R-2364.

TOOL DESIGNER experienced on tools and fixtures for pressed-metal work, as well as for machining operations, to design and detail tools for manufacturing automobile radiators. Present salary in proportion to ability. Excellent opportunity for advancement. Location New York State. R-2365.

AUTOMOBILE-RADIATOR DESIGNER experienced on pressed-metal work, as well as other mechanical designs, to design and draw automobile radiators and their component parts. Present salary in proportion to ability. Excellent opportunity for advancement. Location New York State. R-2366.

DESIGNER to supervise designing of special automatic machines, jigs, fixtures and regular routine engineering and drafting work for a manufacturing plant. Will have charge of all the drafting work, records, etc. Location Massachusetts. R-2367.

INSTRUCTOR IN MECHANICAL LABORATORY; young college graduate in mechanical engineering, with one or two years' of commercial experience, preferably in experimental work. Man about twenty-five years of age really desirous to get into teaching game desired. If he has the right kind of personality and push there is excellent opportunity for advancement to a very responsible position. Salary $2000 per year of ten months. Location Brooklyn, New York. R-2368

MECHANICAL DRAFTSMAN of good ability; must be able to go ahead and complete design work upon preliminary information of company's expert. Work at first will consist of designing of equipment for manufacture of tires. Salary about $150 a month to start. Location New Jersey. R-2369.

DRAFTSMAN with experience in jig, fixture, punch and die design. Man familiar with casting, core work and machine-shop practice desired. Location, Newark, New Jersey. Salary depends upon man. R-2371.

MARINE ENGINEERS; one opening for man experienced on Diesel-engine design and layout work; two openings for men experienced in general marine machinery and layouts. Permanent positions with company building large Diesel ships. Location Newark, N. J. R-2373.

WORKS MANAGER for position with company manufacturing grinding machinery. Machine-tool experience desired. Location Massachusetts. R-2374.

MECHANICAL ENGINEER for position with large chemical company in Philadelphia; experience in design of chemical apparatus desirable. R-2377.

INSTRUCTORS with practical experience in telephone and telegraph work, to teach fundamentals of electricity four days and evenings. Two openings. Salary $25 per week and bonus end of year. Location New York City. R-2378.

MECHANICAL ENGINEER with technical and practical knowledge of up-to-date mechanical methods to take charge of mechanical department in large sheet-metal specialty plant located in Connecticut. No application will be considered without full information of experience and references. State salary expected. R-2380.

SALES ENGINEER: should preferably be familiar with refrigerating apparatus, but this is not absolutely essential, as salesman of technical experience could very quickly familiarize himself with product. Location New Jersey. R-2381.

RESEARCH ENGINEER to investigate effects of certain types of oil in gasoline engines, young engineer interested in research work preferred. Salary $200 per month. Location New Jersey. R-2382.

MECHANICAL DRAFTSMAN experienced in conveying machinery, if possible; must have at least two years' drafting experience. Salary $30 per week. Location New York City. R-2383.

DRAFTSMAN experienced in structural and reinforced-concrete industrial buildings; must be first-class man. Location New York City. R-2384.

DESIGNERS-DRAFTSMEN-TRACERS, experienced in industrial-plant work. Recent graduates and experienced engineers required. Ten men needed. Location New Jersey. R-2385.

ENGINEER with some experience in wood-working line to act as assistant manager and after trial period to assume full charge of plant. Must be A-1 executive of sound judgment and initiative; hard worker. To right man permanent position with ideal opportunities for advancement is offered. Location Oswego, N. Y. R-2390.

TIME-STUDY MAN with sufficient mechanical experience to design mechanical improvements in machinery being studied. Location Maine. R-2391.

INDUSTRIAL ESTIMATOR able to make estimates from rough sketches for alterations and new work. Must have personality and initiative and be accurate. Man between 30 and 40 years desired. Salary depends upon man. Location New Jersey. R-2387.

INSTRUCTOR IN MECHANICAL ENGINEERING; if possible, some teaching experience and four or five years of responsible experience in industry. Man who has had this practical experience in machine-tool production or in power plant work, or both preferred. Salary $2400 per year of eight months plus $25 a month housing allowance. Location Nova Scotia. R-2389.

STEAM AND ELECTRIC POWER PLANT SUPERINTENDENT to take full charge of oil-fired power station to put it on efficient basis. Technical man, active, good executive, with extensive operating experience especially in the steam end, desired. Property is a 30,000-kw. public-utility plant. Location Texas. R-2392.

MEN AVAILABLE

Only members of the Society are listed in the published notices of this section. Copy for notices should be on hand by the 12th of the month, and the form of notice should be such that the initial words indicate the classification. Notices are not repeated in consecutive issues.

ASSISTANT TO BUSY EXECUTIVE: American, 31; married: technical education; 11 years practical engineering and manufacturing experience in various classes of work and positions ranging from shop employe to works manager. SM-5001.

COMMERCIAL ENGINEER will consider responsible man-size job in New York or metropolitan district; expert on power plant and building equipment, steam, electric, heating, ventilating, etc. Main assets are common sense and will to do, backed by initiative and ready adaptability to new conditions. Twelve years' successful engineering practice in consulting, designing, contracting, supervising, editorial writing and technical advertising along lines mentioned. Salary $4000. Sales proposition on salary and commission or bonus considered. SM-5002.

CONCERN MAKING PUMPS, engines or similar products can secure services of capable superintendent having twenty years' successful experience in every detail of business. Experience not limited to one or two positions in same locality but obtained in several of best concerns in Middle West and East. Technical graduate. SM-5003.

DIRECTOR OF ENGINEERING; technical graduate, just completing 5 years' service as plant engineer for one of largest industrial corporations in country. Mechanical, electrical, and civil engineering. Familiar with purchasing, specification writing, etc. At present directing plant organization of 12 field engineers, 1000 mechanics and number of contractors engaged on contract work. Available January 1. SM-5004.

ENGINEER AND EXECUTIVE; age 37; eight years manager and engineer with engineering and contracting company on steam power-plant design and installation and boiler-room economy; good general engineering experience both technical and commercial. Salary $4500. New England or Eastern States preferred, but would consider any location in U. S. A. SM-5005.

ENGINEER EXECUTIVE OR WORKS MANAGER; graduate M.E., 20 years' experience; recently with U. S. Army, officer in charge of district activities, Ordnance Dept.; organization, production, inspection: claims and salvage boards. Manufacturing experience in shops; design, and construction of heavy and special equipment; layout, operation, maintenance and improvement of industrial plants. Location East. SM-5006.

EXECUTIVE ENGINEER; age 28; at present in charge of department, supervising design, construction and sales work of special mechanical equipment for widely-known manufacturer allied to automotive and metal-working industries. Change desired as means of self-betterment. Have thorough shop training, executive, designing and production experience. Salary to suit responsibility. Prefer locating in Central States. SM-5007.

INDUSTRIAL EXECUTIVE; mechanical engineering and legal training; former Army officer; now practicing patent law; connection with manufacturing organization desired; age, 29 years; married; salary open to negotiation. SM-5008.

FACTORY SUPERINTENDENT: American; age 35; experienced in production of brass and steel stampings; modern shop methods; installation piece-work and bonus systems of wage payment; successful in handling men. Available January 1, 1920. Salary $4000. SM-5009.

FOUNDRY MANAGER OR SUPERINTENDENT wants to obtain interest in iron foundry and take over management of it. Graduate engineer, journeyman, molder and patternmaker. Up-to-date on melting, production costs, accounting, buying, etc. Can handle men with tact and get work out. Now saving thousands of dollars with original ideas by reducing losses in foundry and machine shop. SM-5010.

INDUSTRIAL ENGINEER: 25 years' experience in commercial and engineering work in connection with mining and smelting operations. Experience covers design, sales, purchasing and executive work. Age 45, married. Location on Pacific Coast desired. SM-5011.

MANAGER OR GENERAL SUPERINTENDENT: recently discharged officer of A. E. F.

Graduate engineer, 20 years' experience as practical mechanic, master mechanic, superintendent and general manager. Familiar with all details of iron and brass foundries, machine, carpenter, pattern, and forge shops, tool rooms and power plants, cost keeping and office work; successful executive. SM-5012.

MECHANICAL AND SALES ENGINEER; technical graduate; 13 years' experience in design, manufacture and installation of heavy machinery. Expert in design and manufacture of cut herringbone, spur and cast tooth gearing, desires connection with modern concern of high standing in engineering executive capacity where future prospects are good. Age 34, married and employed. Available on thirty days' notice. SM-5013.

INDUSTRIAL OR SALES AGENT FOR NORTHERN EUROPEAN COUNTRIES, graduate engineer planning to leave for northern Europe, wishes to represent American manufacturer of machine tools or of steam auxiliaries or specialties. Particularly familiar with shipyard equipment, marine steam equipment for both boiler and engine rooms, and merchant deck equipment. Conversant in Swedish, Norwegian, Danish and Finnish. Will pay own fare across ocean. SM-5014.

MECHANICAL ENGINEER experienced in general engineering and teaching marine engineering in all its branches, wants permanent position, preferably in New York City. Minimum salary to start $3500. SM-5015.

MECHANICAL ENGINEER; 20 years' experience in practical management of modern central stations, desires connection with large power company in capacity of manager or superintendent of power. Salary $6000. SM-5016.

MECHANICAL ENGINEER; three years as process engineer, and time-study man in plant doing press and light machine work for interchangeable parts; one year in machine room to learn practical side of machine-room problems. M. I. T. man. Desires position as assistant to manager or as process engineer in a growing concern. Connecticut location preferred. SM-5017.

MECHANICAL ENGINEER; M. I. T. graduate; age 27; two years' experience on application and development work, testing of small motors, and works-management investigation; over two years' experience as mechanical engineer for manufacturing plant. At present employed. Desires to get into production and management work or in position along executive lines with industrial concern. SM-5018.

MECHANICAL ENGINEER; age 31; Stevens 1911; recently discharged as engineer officer U. S. N. Experience in operation, design, and sales of power-plant apparatus. Now employed by Navy Department as assistant to engineer in charge of mechanical equipment of large plant. Desires executive position requiring practical knowledge of engineering. Location preferred, New York. SM-5019.

MECHANICAL OR PLANT ENGINEER; technical graduate; assoc. member A.I.E.E. and A.S.M.E.; excellent executive, successful in handling men, tactful and diplomatic; 17 years' experience in electrical and mechanical engineering, including installation and maintenance, power and industrial plant, heating and lighting layout, organization and production engineering. SM-5020.

MEMBER, MECHANICAL ENGINEER; experienced in design and erection of power stations, industrial plants and allied engineering work, desires responsible and permanent position. SM-5021.

MEMBER, TECHNICAL GRADUATE; 37 years old, desires position as works manager, mechanical engineer or mechanical superintendent. Fifteen years' experience in design, construction and operation of power and industrial plants. Ex-service man, recently released. SM-5022.

METALLURGICAL CHEMIST with six years' experience in chemical and microscopical examination of iron and steel; is at present in charge of laboratory of large manufacturing concern but desires change. Age 31, married. SM-5023.

PRODUCTION ENGINEER; shops, and executive experience; results and reference exceptionally good. SM-5024.

PRODUCTION ENGINEER; age 34, married, technical graduate, wishes position with manufacturing concern desirous of standardizing production and cost in accordance with modern scientific methods, with minimum of red tape. Thoroughly experienced in this work and capable of getting it across with the employers in satisfactory manner. SM-5025.

PRODUCTION ENGINEER OR EXECUTIVE; age 44, familiar with all branches of metal-working establishment including costs, systems, systematizing and efficiency methods, and sales; Repair Officer, North Atlantic Fleet, eight months, now Lieutenant on inactive list U. S. N.; best of recommendations. Location immaterial. SM-5026.

PRODUCTION SUPERINTENDENT; age 33. Ten years' experience in telephone work, manufacture of armored cables, conduit, steel tubing, electro-galvanizing, cold rolling, etc. Fifteen months' active service in France as commissioned officer. Good organizer, capable executive, highest testimonials. Salary $3000. SM-5027.

PRODUCTION SUPERINTENDENT OR MANAGER; broad experience as production superintendent in plants requiring accuracy and intensive product; also in supervision of special tooling operations, routing, scheduling and modern methods; successful experience in handling help, can furnish best of references. Location immaterial; at present employed; available on short notice. SM-5028.

POWER ENGINEER; ten years' experience light, heat and power work; installation, operation and maintenance. Thoroughly familiar with all types of prime movers, and all equipment covering central stations, industrial plant or steel works. The last three years of experience in consulting work. Recently discharged from U. S. N. as Ensign. Present salary $4000. SM-5029.

POWER-PLANT ENGINEER; technical graduate, 30 years old. Eight years' experience principally in power-plant design and operation. At present in charge of large steam and gas-power pumping and blowing plant in steel mill. SM-5030.

POWER-PLANT ENGINEER; 41 years of age; technical education; 20 years' experience on power-plant design, construction and supervision. Wide experience in piping design, concrete construction and plant engineering. Has held responsible positions with some of largest concerns in country. SM-5031.

POWER-PLANT EQUIPMENT SALES ENGINEER; technically-trained mechanical engineer, junior member, five years' experience, testing, designing and construction of modern steam-electric plants; at present assistant to chief operating engineer of large syndicate operating public utility properties. Desires connection with sales organization in power-plant or refrigerating-plant equipment field. Age 27; married. Location preferred West or Middle West. Salary or equivalent $2400. Available on thirty days' notice. SM-5032.

PUBLIC UTILITY MANAGER AND ENGINEER; age 37; technical graduate; twelve years' experience in operation, construction, engineering and management of public utilities. Ex-major, construction division; formerly employed as consulting engineer for large corporation and manager of three subsidiary companies furnishing gas, electric refrigeration and heat service. SM-5033.

PURCHASING AGENT; 33; married; seeks high-grade connection with live-wire organization. Knowledge of manufacturing and design of electrical and mechanical appliances; personality that will fit into organization without friction, ability to analyze manufacturing conditions, initiative to get results in new ways. SM-5034.

SALES ENGINEER; young man with technical education; first-class draftsman and tool designer; seeks position with high-class firm that deals in mechanical lines. SM-5035.

SALES EXECUTIVE wants connection with reputable manufacturer or dealer in mechanical products. Has handled steel, ball bearings, and machine tools; experienced both in manufacturing and selling ends. Has mechanical degree and reputation for getting results. American; 28 years old; married. Available after January 1. Prefer headquarters within 200 mile radius New York City. SM-5036.

SALES REPRESENTATIVE FOR PACIFIC COAST; experienced graduate mechanical engineer; 30 years; unmarried; desires to represent one or more well-known firms. Can estimate, analyze conditions, write up catalogues and descriptive data; close contracts, organize and follow up selling compaigns. Available January 1, 1920. SM-5037.

SALES REPRESENTATIVE; 36 years of age, recently released from active duty as Lieutenant, U. S. Navy, desires to represent in Philadelphia reliable company manufacturing marine equipment, oil engines, refrigeration machinery, pumping machinery, oil-burning equipment or any other mechanical equipment requiring an experienced engineer to handle. Would prefer compensation on basis of small retainer for office expenses and commission. SM-5038.

SUPERINTENDENT OF MACHINE SHOP; age 37; 22 years' experience at all branches of machinery trade; executive for past ten years; thorough knowledge of printing-press machinery, automobiles, paper machinery, experimental work, machine tools, electric hoisting machinery, etc. SM-5039.

SUPERINTENDENT OF MECHANICAL EQUIPMENT; technical graduate; 17 years' active engineering experience; superintendent of power plants; plant efficiency, and mechanical superintendent in large industrial plants. Last 10 years in executive charge. Good executive, diplomatic and tactful, familiar with general accounting, plant efficiency, and business methods as applied to industrial-plant operation. SM-5040.

SUPERINTENDENT OR MANAGER; technically trained engineer in addition to being practical mechanic; 20 years' varied experience in essential and special branches; exceptional ability for getting best results from men and equipment, in established concern or working out new enterprises. Desires connection with reliable party in need of high-grade service. SM-5041.

TECHNICAL GRADUATE; 32 years old; 12 years' experience in all departments of industrial management, shop, sales auditing, drafting and engineering. Now employed at $6000 as officer of corporation. Desires to locate in New York State or New England. Available between February 1 and June 1. Qualified to be works manager, office manager or assistant to officer of large corporation. SM-5042.

TECHNICAL SUPERINTENDENT; young, aggressive, well-trained mechanical and chemical engineer; six years in charge of operation in paper-manufacturing industry. Salary $3600 yearly. SM-5043.

WORKS ENGINEER; age 32 years; 10 years' experience; 7 years in responsible charge in office and field of plant layouts, construction, improvement, extension and maintenance, machine design, preparation of machine specifications and purchase; desires change as present position has been affected by ending of war. Salary $4000 per annum. SM-5044.

WORKS ENGINEER OR MANUFACTURING EXECUTIVE; Cornell University graduate in mechanical and electrical engineering; has had more than 10 years' experience in design, construction, operation and maintenance of industrial plants, with consulting engineers and power companies. Permanent connection in eastern United States desired. SM-5045.

YOUNG ENGINEER with six years' broad experience, now employed as mechanical engineer with large machine supply company, desires change. Middle West location preferred. SM-5046.

CONSTRUCTION ENGINEER OR PURCHASING AGENT; mechanical engineer who has been in charge of design and construction work for large corporation in foreign service now available for similar position at home or abroad. SM-5047.

CANDIDATES FOR MEMBERSHIP

TO BE VOTED ON AFTER JAN. 24

BELOW is a list of candidates who have filed applications since the date of the last issue of MECHANICAL ENGINEERING. These are arranged geographically. Applications for change of grading are also posted. The total number of applications received and listed below is 181.

The Membership Committee, and in turn the Council, urge the members to scrutinize this list with care and advise the Secretary promptly of any objections to the candidates posted. All correspondence in this regard is strictly confidential. Unless objection is made to any of the candidates by Jan. 24, and provided satisfactory replies have been received from the required number of references, they will be balloted upon by the Council.

NEW APPLICATIONS

California

DICKIE, ALEXANDER J., Editor in Chief, Pacific Marine Review, San Francisco
HENTSCHKE, PAUL, Designer, Western Machinery Co., Los Angeles
HUBBARD, GEORGE M., Acting Chief Engineer, Moore Shipbuilding Co., Oakland
LACASSE, ALBERT H., Engineer, Meese & Gottfried Co., San Francisco
MILLER, ROBERT N., Chief Draughtsman, Main Iron Works, San Francisco
SOCKRIDER, MARION G., Senior Engineer Officer, U. S. S. Comfort, San Francisco
SULLIVAN, GEORGE L., Professor Mechanical-Electrical Engineer, University of Santa Clara, Santa Clara
VANLEER, BLAKE R., Instructor, University of California, Berkeley

Connecticut

APPLETON, CLIFFORD T., Assistant to Equipment Engineer, Bilton Machine Tool Co., Bridgeport
BANKS, WALTER S., Chief Engineer, Bridgeport Brass Co., Bridgeport
BOYNTON, AUGUSTUS S., Director, State Trade School, Meriden
COOPER, JAMES E., Superintendent, Columbia Nut & Bolt Co., Inc., Bridgeport
DUNN, ALBERT L., Tool Designer, Bullard Machine Tool Co., Bridgeport
FERGUSON, DANIEL M., Industrial Engineer, Winchester Repeating Arms Co., New Haven
FIEGE, HENRY J., Foreman, Waterbury Farrel Foundry & Machine Co., Waterbury
HAINES, ELMER B., Asssitant Engineer, Travelers Indemnity Co., Hartford
HALPIN, BERNARD S., Superintendent of Wire Mill, Bridgeport Brass Co., Bridgeport
INGLE, HENRY W., Special Machine Designer, Hartford Special Machinery Co., Hartford
JONES, HOBART B., Special Machine Designer, The Fafnir Bearing Co., New Britain
MAYETTE, CHARLES E., Designing Draftsman, Westcott & Mapes, Inc., New Haven
PAINE, ARTHUR P., Process Engineer, Winchester Repeating Arms Co., New Haven
PARKER, HARRY, New Britain Machine Co., New Britain
ROBERTS, HARRY J., Personnel Works, Labor Department, Winchester Repeating Arms Co., New Haven
SCHOELL, REINHOLD, Research Engineer, Yale & Towne Mfg. Co., Stamford
TILLMAN, JOHN R., Sales Engineering, Bullard Machine Tool Co., Bridgeport

District of Columbia

FURLOW, JAMES W., Colonel, U. S. Army, Deputy Chief Motor Transport Corps, Washington

Illinois

DODSON, ROWLAND W., Plant Engineer, George S. Mepham & Co., East St. Louis
GAZDA, A. A., Electrical Engineer, Koestner & Hecht Co., Chicago
KOCHNER, WILLIAM B., Mechanical Draftsman, Barber Asphalt Paving Co., Madison
MINER, NELSON A., Chief Engineer, Illinois Traction System, Riverton
SCHIRMER, GUSTAV, Estimator & Sales Engineer, Whiting Foundry Equipment Co., Harvey
SPERRY, PHILMORE F., Superintendent & Designer, B. & W. Mfg. Co., Chicago
TRBOJEVICH, NIKOLA, Mechanical Engineer, Illinois Tool Works. Chicago
WARNOCK, HARRY R., General Superintendent of Motive Power, Chicago, Milwaukee & St. Paul Rd., Chicago
WERSANT, PETER D., JR., Assistant Lubrication Engineer, Sinclair Refining Co., Chicago

Indiana

DEAN, STUART, Vice-President and Superintendent, Dean Bros. Steam Pump Works, Indianapolis
HUBLER, DAVID V., Draftsman, Duncan Electric Manufacturing Co., Lafayette
LANGFITT, JOSEPH K., Works Engineer, Belmont-Ewart Works, Link Belt Co., Indianapolis
WATSON, CLIFFORD H., Superintendent Building & Maintenance, General Electric Co., Fort Wayne

Kentucky

HUBLEY, GEORGE W., Consulting & Advisory Engineer, Louisville
WALTON, DAVID A., President, C. J. Walton & Son, Louisville

Louisiana

ARTHUR, HAROLD M., Superintendent, Caddo Central Oil & Refining Corp., Shreveport

Maryland

FINEGAN, LEO, Superintendent of Shops, Baltimore & Ohio Railroad Co., Baltimore
HARDING, GEORGE W., Inspector of Construction (Mechanical), Bureau of Yards & Docks, Naval Proving Grounds Indian Head
JOYCE, CHARLES V., Division Engineer, Washington Suburban Sanitary District, Hyattville
TOWERS, DONIGAN D., Agent, Mt. Vernon-Woodberry Mills, Inc., Baltimore

Massachusetts

CHESNEY, MALCOLM M., Assistant Engineer, E. D. Jones Sons Co., Pittsfield
DANIELS, DWIGHT C., Norton Company, Worcester
HAIGHT, OAKLEY V., Plan Engineer, Tool Division, Hendee Mfg. Co., Springfield
KRAUSE, EDWIN, Industrial Engineer as the Personal Representative, Industrial Interests of J. F. Alvord, Springfield
MAY, ELLIOT D., Draftsman, Baxter D. Whitney & Son, Inc., Winchendon
MAYO, PERCY B., Assistant Manager, Jamison Co., Fitchburg
ROBERTS, DEERING S., Chief Appraisal Engineer, Cooley & Marvin Co., Boston
ROCKENFIELD, WILLIAM A., Assistant General Manager, Baldwin Chain & Mfg. Co., Worcester

Michigan

CALLARD, CHARLES G., Production Department, Olds Motor Works, Lansing
GOOD, CHARLES W., Instructor, University of Michigan, Ann Arbor

Minnesota

ELSNER, WILLIAM H., Chief Draftsman, Great Northern RR., St. Paul

Missouri

ARMSTRONG, LESTER E., Mechanical Engineer, Heine Safety Boiler Co., St. Louis
WILSON, CHARLES H., Sales Engineer, Fairbanks, Morse & Co., St. Louis

New Jersey

BURCHETT, WALTER J., Designer, Slocum, Avram & Slocum Laboratories, Inc., Newark
FRANCIS, CHARLES W., General Superintendent, Gillespie Motor Co., Paterson
FRANCKE, WILLIAM J., Vice President, Francke Co., New Brunswick
JONES, WALTER, Experimental Engineer, Brunswick Refrigerating Co., New Brunswick
NORTON, HOWARD C., Fuel Oil Expert, Standard Oil Co., Elizabeth
SCHEDE, JULIUS W., Assistant Marine Manager, Brunswick Refrigerating Co., New Brunswick
SHORKEY, FRED A., Test Engineer, E. I. duPont de Nemours & Co., Carney's Point
SPIEGEL, SAMUEL, Draughtsman, Babcock & Wilcox Co., Bayonne
TYLER, JOSEPH B., Construction Engineer, E. I. duPont de Nemours & Co., Carney's Point
VAN WAGNER, WALTER M., Assistant Superintendent, American Agricultural Chemical Co., Carteret
ZWINGLI, CARL T., Cadet Engineer, Babcock & Wilcox Co., Bayonne

New York

ANDERSON, STEN, Mechanical Engineer, N. Y. Steam Co., New York
APPERSON, JOHN S., Engineer in Power & Mining Engineering Department, General Electric Co., Schenectady
BADGE, FRANCIS J., Tool Engineer, Sperry Gyroscope Co., Brooklyn
BONNELL, CLEMENT M., Jr., Ford, Bacon & Davis, New York
BOWSER, STANLEY W., Assistant to Chief Engineer, Nestle's Food Co., New York
BROUSSEAU, EDWARD W., Junior Engineer, Radio Corporation of America, New York
BURCH, THOMAS H. JR., Sales Engineer, Hooven-Owens-Rentschler Co., New York
CARROLL, MICHAEL J., Gas Engine Designer, Dyneto Electric Corp., Syracuse
CARY, JOSEPH B., Operating Manager, Air Reduction Sales Co., New York
CHAMBERS, GEORGE G., Mechanical Draftsman, Richmond Levering Co., Inc., New York
CHAPIN, JOHN J., Development Engineer, Remington Typewriter Co., New York
CLARK, THOMAS S., Chief Engineer & Treasurer, Alphons Custodis Chimney Construction Co., New York
DUNCAN, JAMES R., Engineer, Insulation Department, H. W. Johns-Manville Co., New York
FREIDAY, JAY A., Assistant Engineer, Thomas E. Murray, New York
GESELL, EGBERT G., Agricultural Machinery Engineer, W. R. Grace & Co., New York
GORZO, JULIUS, Engineer & Trader, New York
GRIDLEY, ALLEN H., Assistant Engineer, H. S. Ferguson, New York
GUIDER, JOHN F., General Superintendent, Pierce Arrow Motor Car Co., Buffalo
GUMAER, PIERRE L., The Texas Co., New York
HOFFMAN, ROBERT J., General Superintendent, The Linde Air Products Co., New York
JONES, JOHN G., Mechanical Engineer, Eastman Kodak Co., Rochester
KIMMEY, HAROLD I., Time Study, Remington Typewriter Co., Syracuse
LAROCCA, CARL J., Tool Designer, Pathe Freres Phonograph Co., Brooklyn
LUND, NELS B., Machine Designer, Carrie Gyroscope Corp., New York
MCARDLE, JOHN H., Buyer, W. R. Grace & Co., New York
MCDOUGALL, ERIC W., Railway Engineer, W. R. Grace & Co., New York
MACWATTY, FRANK L., Assistant to Assistant Mechanical Engineer, American Hard Rubber Co., New York
MENEFEE, HARRY R., Section Head, Western Electric Co., New York
MERO, JOSEPH M., Mechanical Engineer Senior at Cooper Union Day School of Technology, New York
MEROVITCH, EUGENE B., Niles Bement Pond Co., New York
NETTLETON, GEORGE H., New York
PHILLIPS, JOHN C., Supervising Engineer of Plants, New York Steam Co., New York
ROBINSON, MERRILL P., Eastern Sales Representative, International Filter Co., New York
ROTHMAN, MOSES H., Partner, M. H. Rothman & Co., New York

RUGG, HARRY M., Supervisor of Technical Instruction Educational Council, International Committee Y. M. C. A., New York
SAVAGE, HARLOW D., Vice President, American Arch Co., New York
SEELIGSBERG, LEONARD W., Executive Assistant, McGraw-Hill Company, Inc., New York
SMYTH, HARRY K., Sales Engineer, Niles Bement Pond Co., New York
WALLS, ALFRED J., JR., Draftsman, Western Electric Co., Inc., New York
WILLARD, ALFRED J., Export Lubricating Engineer, The Texas Co., New York
WILLSON, GEORGE T., Assistant Superintendent, DeLaval Separator Co., Poughkeepsie

Ohio

ADDINGTON, HERBERT B., Mechanical Engineer, The H. K. Ferguson Co., Cleveland
BANKS, JOHN, Chief Draftsman, Advance Mfg. & Tool Co., Cleveland
CASTER, JOHN E., Tool Designer, The Cincinnati Milling Machine Co., Cincinnati
ENZ, KARL A., Engineer in Charge of Designing, Wellman Seaver Morgan Co., Cleveland
HUNSICKER, CHARLES R., Resident Engineer, Firestone Steel Products Co., Akron
INGERSOLL, CHARLES B., Assistant Chief Engineer, Upson Nut Co., Cleveland
LEBLOND, HAROLD R., Laboratory Director, R. K. LeBlond Machine Tool Co., Cincinnati
LYONS, WILLIAM H., Mechanical Engineer, Lorain County Electric Co., Lorain
MORRISSEY, RAY L., Representative, The Cincinnati Milling Machine Co., Cincinnati
SKELDON, DAVID F., Vice President, The Joseph L. Skeldon Engineering Co., Toledo
SUTTON, SAMUEL P., Efficiency Engineer, B. F. Goodrich Co., Akron
TIETJEN, OTTO F., Cleveland Tractor Co., Cleveland
WHELAN, RODERICK J., General Manager, The Elgin Machine Co., Elyria
WRIGHT, JAMES C., Engineer, Carnegie Steel Co., Youngstown

Oklahoma

DEBUTTS, DEAN J., Chief Draftsman, Oklahoma Petroleum & Gasoline Co., Tulsa
RICE, F. EDGAR, Chief Engineer, Phillips Petroleum Co., Bartlesville
WAGNER, GEORGE E., JR., Assistant Mechanical Engineer, Sinclair-Cudahy Pipe Line Co., Tulsa
WATTS, JENNETH, Chief Engineer, Oklahoma Petroleum & Gasoline Co., Tulsa

Pennsylvania

ABRAMS, JOSEPH H. ,B. Abrams, Philadelphia
AYRES, ELWOOD B., 2nd Vice President, Philadelphia Textile Machinery Co., Philadelphia
BEHRINGER, CHARLES R., Watch Engineer, Mercer County Light, Heat & Power Co., Greenville
BRISTOL, EDWARD S., Research Engineer, Leeds & Northrup Co., Philadelphia
CALDWELL, WILLIAM F., Designing Engineer, The Barrett Co., Philadelphia
CLEMENS, ALONZO W., Designing Engineer, Bethlehem Steel Co., Bethlehem
DEAN, ARCHER G., Assistant Superintendent, H. O. Wilbur & Sons, Inc., Philadelphia
DEROSAY, KINGSLEY E., Instructor, University of Pennsylvania, Philadelphia
DUFF, PHILIP J., Assistant to Manager, Ship Construction Division, Emergency Fleet Corp., Philadelphia
FRENCH, STUART K., General Superintendent, Propulsion Machinery Installation, Hog Island
HALLER, HENRY E., President, National Valve & Mfg. Co., Pittsburgh
HOBBS, ELMER E., Engineering Aide, Fuel Oil Testing Plant, Navy Yard, Philadelphia
INMAN, EDWARD R., Patent Attorney, Designer of Special Machinery, Franklin
KENNEDY, MATTHEW M., Engineer of Tests, Navy Yard, Philadelphia
KLOTZ, ALBERT W., Mechanical Draftsman, Valley Iron Works, Williamsport
McVETTY, PERCY G., Industrial Fellow, Mellon Institute of Industrial Research, Pittsburgh
PATTERSON, EDGAR S., Steam Engineering, American Sheet & Tin Plate Co., Pittsburgh
REBER, CARROLL J., Assistant Steam Superintendent, Pittsburgh Service Department, Westinghouse Electric & Mfg. Co., Pittsburgh
SMITH, MARSHALL C., Engineer, The Barrett Co., Philadelphia
SPACKMAN, GEORGE D., Assistant Master Mechanic, Lukens Steel Co., Coatesville
TULL, M. GRAHAM, Draftsman, Barrett Co. Philadelphia
ZERBEY, ARTHUR L., Executive Engineer, F. Q. Hartman, Inc., Danville

Rhode Island

RUSDEN, ETHELBERT, President & General Manager, The Textile Finishing Machinery Co., Providence

South Carolina

STALL, EARLE R., Mill Engineering, J. E. Sirrine, Greenville

Vermont

PRICE, JOHN C., Travelling Engineer, Jones & Lamson Machine Co., Springfield

Virginia

EUSTIS, IRVING N., Lieut., U. S. Navy, Norfolk Navy Yard, Portsmouth
WARTHEN, HARRY J., Superintendent Motive Power, R. F. & P. R. R., Washington Southern Railroad, Richmond

Washington

AITCHISON, CLYDE S., Draftsman, Emergency Fleet Corp., Seattle

West Virginia

KAY, SAMUEL, Mechanical Engineer, Valuation Board, U. S. Explosives Plant, Nitro
WEISSENBURGER, CHARLES O., Vice President and General Manager, Marietta Manufacturing Co., Point Pleasant

Wisconsin

BABUSH, JOSEPH S., Efficiency Engineer, Federal Rubber Co., Cudahy
BANKER, OSCAR H., Chief Engineer, Racine Tool & Machine Co., Racine
MILLER, HARRY G., Electrical Engineer, Valuation Dept., C., M. and St. Paul Railway, Milwaukee
ROBERTS, JAMES F., Assistant Engineer, Hydraulic Department, Allis-Chalmers Mfg. Co., Milwaukee
ZACHOW, CLARENCE W., Shop Engineer, M., St. Paul & Ste. Marie Railway Co., North Fond du Lac

Canada

QUESNEL, NICHOLAS W., Supervisor of Boiler Construction, Estimating, Designing and Erecting, The John Inglis Co., Ltd., Toronto
SCHRAG, CARL N., Manager, Toronto Office, Equipment Specialties, Ltd., Toronto
TREANOR, WALTER C., Chief Inspector of Fog Alarms, Dominion Government, Department of Marine. Ottawa
TRULL, FREDERICK G., Toronto Hydro Electric System, Toronto
WELDON, R. LAURENCE, Mechanical Engineer, Laurentide Co., Ltd., Grand Mere

Cuba

GOWLING, LAWRENCE E., Mechanical Engineer, Havana Electric Railway, Light & Power Co., Havana

France

BREUIL, PIERRE, Consulting Engineer, Nogent-Sur-Marne, Seine

Germany

HAGBERG, ERIC E., Manager, Neuss Works, International Harvester Co., Neuss

India

JAYAM, H. M., Mechanical Draftsman, Central Industrial Workshop, Bangalore

Japan

MURAYAMA, SHIKANOSUKE, Chief Mechanical Engineer, Mitsui Mining Co., Ohmutash, Fukuokaken

CHANGE OF GRADING

PROMOTION FROM ASSOCIATE

Maryland

KRYZANOWSKY, CONSTANT J., President, Tungsten Products Company of Maryland, Baltimore

PROMOTION FROM JUNIOR

California

SHATTUCK, CHARLES H., Engineer, C. F. Braun & Co., San Francisco

Connecticut

RITCHIE, AI TRENOWETH, Instructor, State Trade School, Meriden

Indiana

MARKEY, HAROLD I., Mechanical Engineer, Diamond Chain & Mfg. Co., Indianapolis

Massachusetts

DAVIS, ALBION R., Mechanical Engineer, Scovell Wellington & Co., Boston
TAYLOR, PAUL H., Plant Engineer, Bird & Son, Inc., East Walpole

Michigan

PORTER, ROBERT, Vice President, Jaxon Steel Products Co., Detroit

New Jersey

FOSTER, CHARLES C., Assistant Plant Engineer, General Motors Corp., Harrison

New York

ADAMS, THOMAS D., Chief Draftsman, Afton Development Co., Afton (Reinstatement), New York
BECHERT, FRED J., Attorney-at-Law, Mitchell & Allyn, New York
HOAR, JOHN C., Engineer of Machinery, American Locomotive Co., Schenectady
MUDGE, STERLING W., Instructor, Pratt Institute, Brooklyn

Ohio

VALENTINE, FLOYD H., Partnership, Mayer & Valentine (Reinstatement), Cleveland

SUMMARY

New Applications	173
APPLICATIONS FOR CHANGE OF GRADING:	
Promotion from Associate	1
Promotion from Junior	12
Total	186

SUMMARY SHOWING AVERAGE AGE AND POSITIONS OF APPLICANTS ON BALLOT CLOSING NOVEMBER 29, 1919

Average age of applicants:	
Members	38
Associates	45
Associate-Members	35
Juniors	26
Cadet Engineer	1
Chief Engineers	8
Asst. Chief Engineer	3
Construction Engineers	3
Consulting Engineers	3
Designers	10
Draftsmen	7
Chief Draftsmen	8
Electrical Engineers	3
Erecting Engineer	1
Executives (Pres., Vice-Pres., Secy.-Treas., Mgrs.)	19
Foremen	2
Inspector	1
Instructors	1
Maintenance Engineer	1
Master Mechanic	3
Mechanical Engineers	21
Asst. Mechanical Engineers	4
Plant Engineers	2
Power Plant Engineer	1
Asst. Professor	1
Research Engineer	1
Sales Engineers	3
Supervisor	1
Superintendents	6
Asst. Superintendents	4
Testing Engineers	1
Tool Engineers	2
Works Engineer	1
Miscellaneous	21

UNITED STATES GOVERNMENT SERVICE

Colonel	1
Major	1
Captains	2
Ensign	1